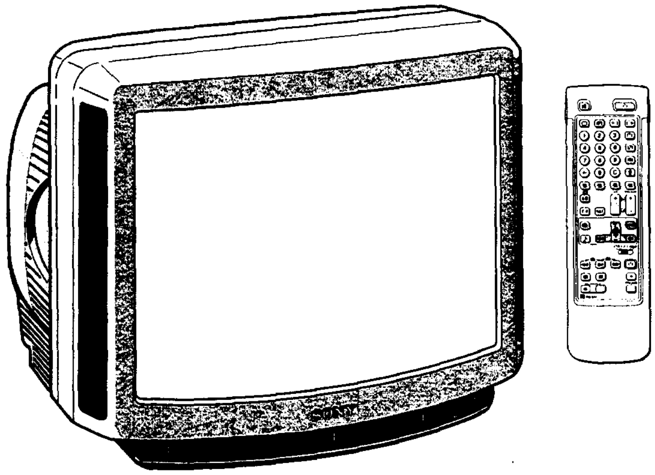
SERVICE MANUAL

AE-2B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2171A	RM-831	Italian	SCC-G59B-A
KV-X2171B	RM-831	French	SCC-G57B-A
KV-X2171D	RM-831	AEP	SCC-G45B-A
KV-X2173E	RM-831	Spanish	SCC-G56B-A
KV-X2172U	RM-831	UK	SCC-G55B-A



MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF: 21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	UK
Power Consumption	87W	98W	97Wh	99Wh	122W

SPECIFICATIONS

Picture Tube	Hi-Black Trinitron Approx. 54·5 cm (21 inches) (Approx. 51 cm picture measured diagonally) 100° -deflection

Input/Output Terminals

[REAR]

⊖-1 21-pin Euro connector (CENELEC standard)
- inputs for audio and video signals
- inputs for RGB
- outputs of TV video and audio signals

⊖-2/⊖ 2 21-pin Euro connector
- inputs for audio and video signals
- inputs for S video
- outputs for audio and video signals (selectable)

⊖ Audio outputs (variable) - phono jacks

[FRONT]

⊖3 Video input - phono jack

⊖ Audio inputs - phono jacks

⊖3 S video input 4-pin DIN

Ω Headphone jacks : stereo minijack

Sound output	2 x 12W (RMS) 2 x 30W (Music)
Power requirements	220 - 240V
Dimensions	Approx. 517x443x485 mm
Weight	Approx. 28kg
Supplied accessories	RM-831 Remote Commander (1) IEC designation R6 battery (1)
Other features	NICAM , FASTEXT.

[RM-831]

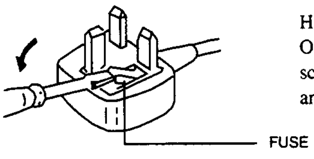
Remote control system	infrared control
Power requirements	1.5V dc 1 battery IEC designation R6 (size AA)
Dimensions	Approx. 65x225x21 mm (w/h/d)
Weight	Approx. 157g (Not including batteries)

Design and specifications are subject to change without notice.

Model name Item	KV-X2171A	KV-X2171B	KV-X2171D	KV-X2173E	KV-X2172U
Pal Comb	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF
Dyn. Convergence	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF
Language Preset	Italiano	Francais	Deutsch	None	English

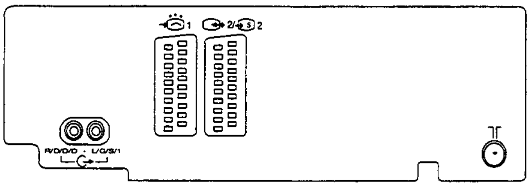
WARNING (KV-X2172U only)

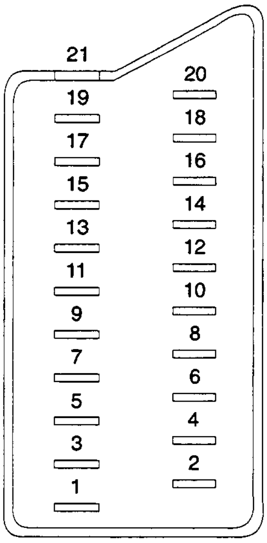
The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ◈ mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME.
IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED.
THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade
and replace the fuse.

21 pin connector (-1 2 / 4)

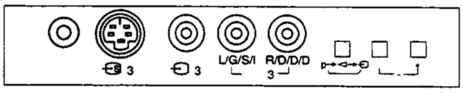




Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) croma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
20	○	—	—	Video input	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
21	○	○	○	Common ground (plug, sheild)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.



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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE. CHÁSSIS DE CE RÈCEPTEUR EST DIRECTEMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

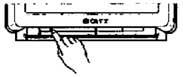
SECTION 1
GENERAL

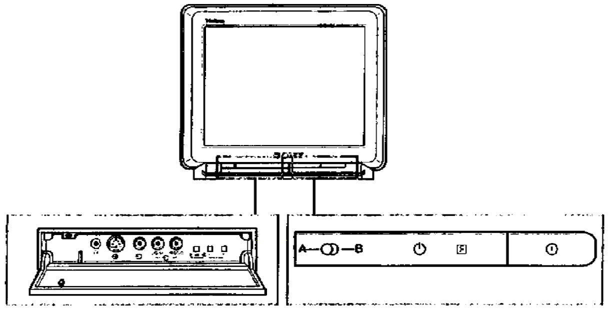
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

Overview

This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

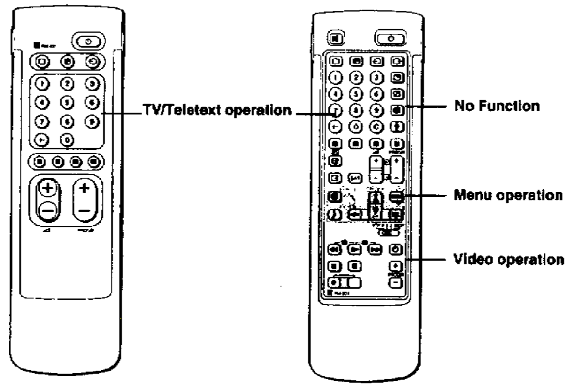
TV set - front





Symbol	Name	Refer to page
⏻	Main power switch	13
⏻	Standby indicator	13
A-◯-B	Stereo A/B indicators	15
Ω	Headphones jack	20
⊸S3, ⊸◯3, ⊸⊙3	Input jacks (S-video/video/audio)	20
P→⊿→⊙	Function selector (Programme/volume/input)	13
− +	Adjustment buttons for function selector	13

Remote Commander RM-831



Simple side Full-Function side

Note
The SAT button does not operate with this TV.

TV/Teletext operation

Symbol	Name	Refer to Page
🔇	Mute on/off button	14
⏻	Standby button	13
▢	TV power on/TV mode selector button	13
⊜	Teletext button	14
⊸◯	Input mode selector	14
◯→	Output mode selector	21
1,2,3,4,5,6, 7,8,9, and 0	Number buttons	13
-/- -	Double-digit entering button	13
C	Direct channel entering button	10
⊿+/–	Volume control button	13
PROGR +/–	Programme selectors	13
⊕⊖	Teletext page access buttons	17
●	Picture adjustment button	15
♪	Sound adjustment button	15
⊡	On-screen display button	14
⊞	Teletext hold button	17
◷	Time display button	14
■■■■	Fastext buttons	17

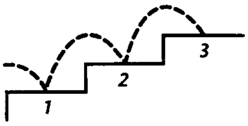
Menu operation

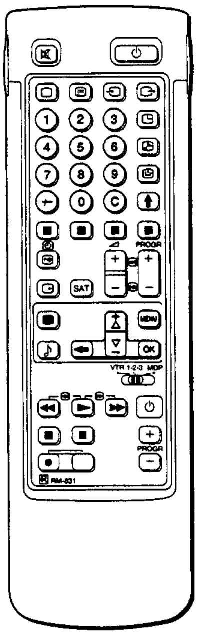
Symbol	Name	Refer to Page
MENU	Menu on / off button	7
△+/▽–	Select buttons	7
OK	OK (confirming) button	7
⬅	Back button	7

Video operation

Symbol	Name	Refer to Page
VTR1/2/3 MDP	Video equipment selector	22
◀◀ ▶ ▶▶ ■ ❚❚ ● ⏻ PROGR +/–	Video equipment operation buttons	22

Step 3 Tuning in to TV Stations





Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 60 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

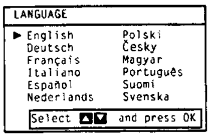
- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.

❶ Choose a language

1 Depress ⏻ on the TV.
The TV will switch on. If the standby indicator on the TV is lit, press ▢ or a number button on the Remote Commander.

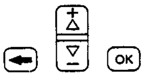
2 Press the MENU button. MENU
The `LANGUAGE` menu appears. (See Fig. 1)

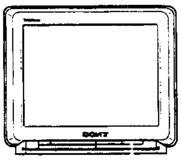
3 Select the language you want with △+ or ▽–, and then press OK.



```
LANGUAGE
► English      Polski
  Deutsch      Česky
  Français     Magyar
  Italiano     Português
  Español      Suomi
  Nederlands   Svenska
  Select ▲▼ and press OK
```

Fig. 1.





⏻

❷ Display the Menu

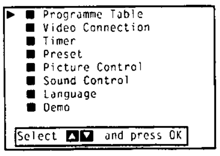
Press the ⬅ button.
The main menu appears. (See Fig. 2)

Now, choose one of the methods described overleaf:

"Preset Channels Automatically"

or

"Preset Channels Manually".



```
► ■ Programme Table
  ■ Video Connection
  ■ Timer
  ■ Preset
  ■ Picture Control
  ■ Sound Control
  ■ Language
  ■ Demo
  Select ▲▼ and press OK
```

Fig. 2.

It is recommended to choose

"Preset Channels Automatically".

Then the channels are automatically stored as follows;

Programme 1	–	BBC1
Programme 2	–	BBC2
Programme 3	–	ITV
Programme 4	–	CH4 or S4C

To go back to main menu:
Keep pressing ⬅.

To go back to the normal TV picture:
Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

Note on the Demo function:
If you choose Demo on the main menu, you can see a sequential demonstration of the menu functions. Press MENU to stop the function.

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting:
Press ← on the Remote Commander.

Notes:
- After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see "Using the Programme Table" on page 16.
- You can sort the programme positions to have them appear on screen in the order you like. For details, see "Sorting Programme Positions" on page 10.
- Programme names are automatically taken from Teletext if available. If not please refer to page 11 "Captioning a station name" for further information.

❸ Preset channels automatically

1 Select `Preset` with △+ or ▽− and press OK.
The `PRESET` menu appears. (See Fig. 3.)

2 Select `Auto Programme` with △+ or ▽− and press OK.
The `AUTO PROGRAMME` menu appears. (See Fig. 4.)

3 Press OK repeatedly until the first element of the "PROG" number is highlighted.

4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽− or the number buttons (e.g. For "04", select "0" here) and press OK.
The second element of "PROG" will be highlighted.

5 Select the second element of the double-digit number with △+ or ▽− or the number buttons (e.g. For "04", select "4" here) (See Fig. 5.) and press OK.

6 The automatic channel presetting starts.
When presetting is finished, the preset menu reappears. All available channels are now stored on successive number buttons. (Press MENU to restore normal TV picture).

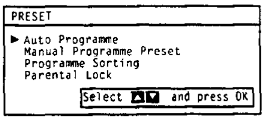
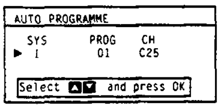
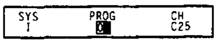


Fig. 3.



```
AUTO PROGRAMME
  SYS        PROG   CH
▶ I           01    C25

Select ▲▼  and press OK
```

Fig. 4.



```
SYS        PROG        CH
I           0          C25
```

Fig. 5.

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

❸ Preset channels manually

1 Select `Preset` with △+ or ▽− and press OK.
The `PRESET` menu appears. (See Fig. 6.)

2 Select `Manual Programme Preset` with △+ or ▽− and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 7.)

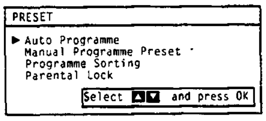
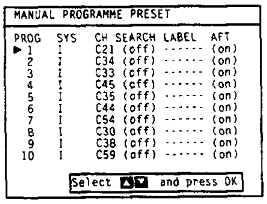


Fig. 6.

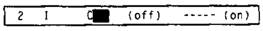


```
MANUAL PROGRAMME PRESET
PROG  SYS  CH SEARCH LABEL  AFT
▶ 1    I   C21 (off) ------ (on)
  2    I   C34 (off) ------ (on)
  3    I   C33 (off) ------ (on)
  4    I   C45 (off) ------ (on)
  5    I   C35 (off) ------ (on)
  6    I   C44 (off) ------ (on)
  7    I   C54 (off) ------ (on)
  8    I   C30 (off) ------ (on)
  9    I   C38 (off) ------ (on)
 10    I   C59 (off) ------ (on)

        Select ▲▼  and press OK
```

Fig. 7.

3 Using △+ or ▽–, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Keep pressing ▽– to select programme numbers higher than 10.



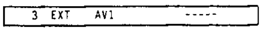
```
2   I      C■   (off)   ----- (on)
```

Fig.8.

To tune in a channel by frequency:
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

5 Select, if necessary, a video input source (EXT) with △+ or ▽–. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8.)

6 Using △+ or ▽–, select C (to preset a regular channel), or F (to tune in by frequency) and press OK.
The first element of the "CH" number will be highlighted.
If you have selected EXT in step 5, select the video input source with △+ or ▽–. (See Fig. 9.)



```
  3 EXT   AV1           -----
```

Fig.9.

Please refer to "Television Channel Number Guide" on page 24.

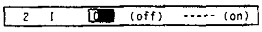
There are two ways to preset channels. If you know the channel number, go to step "7-Manual",

or

if you don't know the channel number, go to step "7- Search".

7 ***Manual***

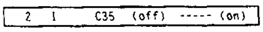
-a Select the first element of the "CH" number with △+ / ▽– or the number buttons and press OK.
The second element of the "CH" number will be highlighted.



```
2   I      10■  (off)   ----- (on)
```

Fig.10.

-b Select the second element of the number with △+ / ▽– or the number buttons.
The selected number appears. (See Fig. 10.)



```
2   I      C35  (off)   ----- (on)
```

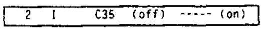
Fig.11.

-c Press OK
The "SEARCH" position is highlighted and the selected channel is now stored. (See Fig. 11.)

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

If you have made a mistake:
Press ⬅ to go back to the previous position.
To go back to main menu
Keep pressing ⬅.
To go back to the normal TV picture
Press MENU.

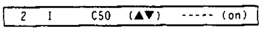


```
2   I      C35  (off)   ----- (on)
```

Fig.12.

7 ***Search***

-a Press OK repeatedly until the colour of the SEARCH position changes.



```
2   I      C50  (▲▼)    ----- (on)
```

Fig.13.

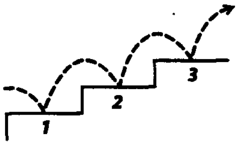
-b Start searching for the channel with △+ (up) or ▽– (down).
The CH position changes colour. (See Fig. 12.)
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)

-c Press OK if you want to store this channel. If not, press △+ or ▽– to continue channel searching.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

Additional Presetting Functions

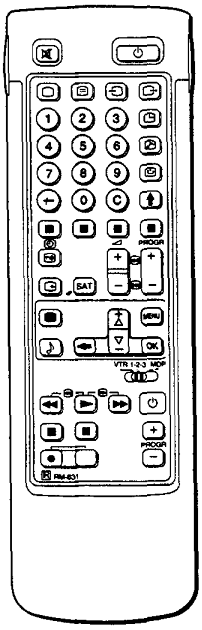


This section shows you additional presetting functions such as sorting or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible
- Locate the Menu operation buttons.

PROGRAMME SORTING



Sorting Programme Positions

With this function, you can sort the programme positions to a preferable order.

1 Press MENU to display the main menu.

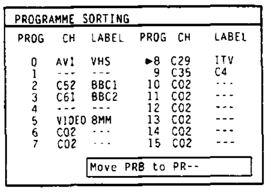
2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Programme Sorting` with △+ or ▽– and press OK.
The `PROGRAMME SORTING` menu appears. (See Fig. 14.)

4 Using △+ or ▽–, select the programme position you want to move to another programme position and press OK.
The colour of the selected position changes. (See Fig. 15.)

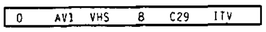
5 Using △+ or ▽–, select the programme position to which you want to move the selected programme and press OK. Now the two programme positions have been sorted. (See Fig. 16.)

6 Repeat steps 4 and 5 to exchange other programme positions.



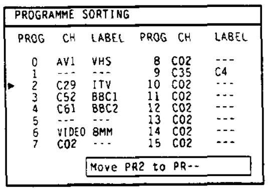
```
PROGRAMME SORTING
PROG  CH    LABEL   PROG  CH    LABEL

  0   AV1   VHS     ►8   C29    ITV
  1   ---   ---      9   C35    C4
  2   C52   BBC1    10   C02    ---
  3   C61   BBC2    11   C02    ---
  4   ---   ---     12   C02    ---
  5   VIDEO 8MM     13   C02    ---
  6   C02   ---     14   C02    ---
  7   C02   ---     15   C02    ---
                 Move PR8 to PR--
```

Fig. 14.



```
0     AV1   VHS     8     C29    ITV
```

Fig. 15.



```
PROGRAMME SORTING
PROG  CH    LABEL   PROG  CH    LABEL

  0   AV1   VHS      8   C02    ---
  1   ---   ---      9   C35    C4
► 2   C29   ITV     10   C02    ---
  3   C52   BBC1    11   C02    ---
  4   C61   BBC2    12   C02    ---
  5   ---   ---     13   C02    ---
  6   VIDEO 8MM     14   C02    ---
  7   C02   ---     15   C02    ---
                 Move PR2 to PR--
```

Fig. 16.

For higher programme positions:
The display scrolls automatically.

If you have made a mistake:
Press ◄▬ to go back to the previous position.

To go back to main menu:
Keep pressing ◄▬.

To go back to the normal TV picture:
Press MENU.

Tuning in a Channel Temporarily

You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

Ⓒ

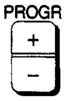
1 Press C on the Remote Commander.
The indication "C" appears on the screen.

2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/- buttons. However, the skipped programmes may still be called up when you use the number buttons.



1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

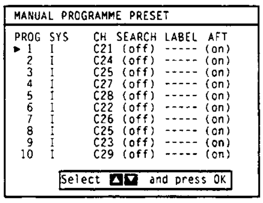
3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig.17.)

4 Using △+ or ▽–, select the programme position which you want to skip and press OK.
The "SYSTEM" position changes colour.

5 Press △+ or ▽– until – – – appears in the SYSTEM position. (See Fig. 18.)

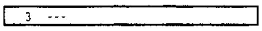
6 Press OK. (See Fig. 19.)
When you select programmes using the PROGR +/– buttons, the programme position will be skipped.

7 Repeat steps 4 to 6 to skip other programme positions.



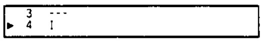
```
MANUAL PROGRAMME PRESET
PROG SYS    CH  SEARCH LABEL  AFT
▶ 1   I     C21 (off)  -----  (on)
  2   I     C24 (off)  -----  (on)
  3   I     C25 (off)  -----  (on)
  4   I     C27 (off)  -----  (on)
  5   I     C28 (off)  -----  (on)
  6   I     C22 (off)  -----  (on)
  7   I     C26 (off)  -----  (on)
  8   I     C25 (off)  -----  (on)
  9   I     C23 (off)  -----  (on)
 10   I     C29 (off)  -----  (on)
      Select ▲▼ and press OK
```

Fig. 17.



```
  3  ---
```

Fig. 18.



```
  3  ---
▶ 4  I
```

Fig. 19.

MANUAL PROGRAMME PRESET

Captioning a Station Name

Programme names are automatically taken from Teletext if available. However you can also "name" a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 20.)

4 Using △+ or ▽–, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

5 Select a letter or number with △+ or ▽– and press OK.The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 21.)

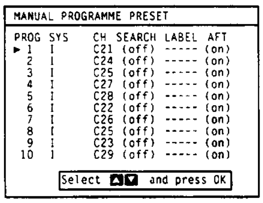
6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin). Now the caption you chose is stored. (See Fig. 22.)

7 Repeat steps 5 and 6 to caption names for other channels.

If you have made a mistake:
Press ⬅ to go back to the previous position.

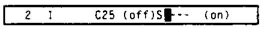
To go back to main menu:
Keep pressing ⬅.

To go back to the normal TV picture:
Press MENU.



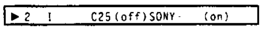
```
MANUAL PROGRAMME PRESET
PROG SYS    CH  SEARCH LABEL  AFT
▶ 1   I     C21 (off)  -----  (on)
  2   I     C24 (off)  -----  (on)
  3   I     C25 (off)  -----  (on)
  4   I     C27 (off)  -----  (on)
  5   I     C28 (off)  -----  (on)
  6   I     C22 (off)  -----  (on)
  7   I     C26 (off)  -----  (on)
  8   I     C25 (off)  -----  (on)
  9   I     C23 (off)  -----  (on)
 10   I     C29 (off)  -----  (on)
      Select ▲▼ and press OK
```

Fig. 20.



```
  2   I     C25 (off)S█---  (on)
```

Fig. 21.



```
▶ 2   I     C25(off)SONY-   (on)
```

Fig. 22.

MANUAL PROGRAMME PRESET

Manual Fine-Tuning

Normally, the AFT(automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 23.)

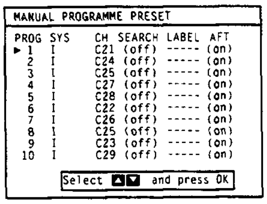
4 Using △+ or ▽– , select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.

5 Fine-tune the channel with △+ or ▽– so that you get the best TV reception. As you press the cursor buttons, the frequency changes from –15 to +15. (See Fig. 24.)

6 After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.

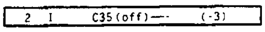
7 Repeat steps 4 to 6 to fine-tune other channels.

To reactivate AFT (automatic fine tuning):
Repeat from the beginning and select "ON" in step 5.



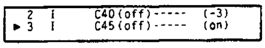
```
MANUAL PROGRAMME PRESET
PROG SYS    CH  SEARCH LABEL  AFT
▶ 1   I     C21 (off)  -----  (on)
  2   I     C24 (off)  -----  (on)
  3   I     C25 (off)  -----  (on)
  4   I     C27 (off)  -----  (on)
  5   I     C28 (off)  -----  (on)
  6   I     C22 (off)  -----  (on)
  7   I     C26 (off)  -----  (on)
  8   I     C25 (off)  -----  (on)
  9   I     C23 (off)  -----  (on)
 10   I     C29 (off)  -----  (on)
        Select ▲▼  and press OK
```

Fig. 23.



```
  2   I     C35(off)—-      (-3)
```

Fig. 24.



```
  2   I     C40(off)-----   (-3)
▶ 3   I     C45(off)-----   (on)
```

Fig. 25.

PARENTAL LOCK

Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Parental Lock` with △+ or ▽– and press OK.
The `PARENTAL LOCK` menu appears. (See Fig. 26.)

4 Using △+ or ▽–, select the programme position you want to block and press OK.
The CH and LABEL, of the selected programme number, change colour indicating that this programme is now blocked.
(See Fig. 27.)

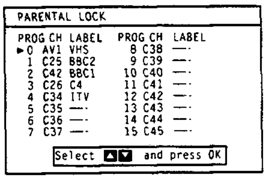
5 Repeat step 4 to block other programme positions.

Cancelling blocking

1 On the `PARENTAL LOCK` menu, select the programme position you want to unblock with △+ or ▽–.

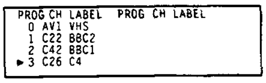
2 Press OK.
The CH and LABEL change to normal colour indicating that the blocking has been cancelled.

If you try to select a programme that has been blocked:
The message "LOCKED" appears on the blank TV screen.



```
PARENTAL LOCK
PROG CH  LABEL   PROG CH  LABEL
▶0  AV1 VHS        8 C38  —-
 1  C25 BBC2       9 C39  —-
 2  C42 BBC1      10 C40  —-
 3  C26 C4        11 C41  —-
 4  C34 ITV       12 C42  —-
 5  C35 —-        13 C43  —-
 6  C36 —-        14 C44  —-
 7  C37 —-        15 C45  —-
      Select ▲▼  and press OK
```

Fig. 26.

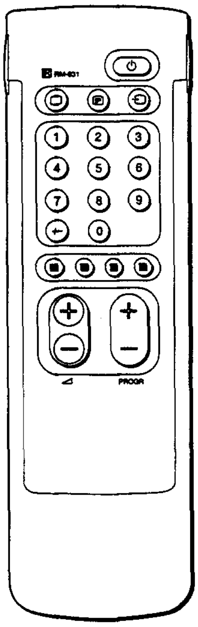


```
PROG CH  LABEL   PROG CH LABEL
  0 AV1 VHS
  1 C22 BBC2
  2 C42 BBC1
▶ 3 C26 C4
```

Fig. 27.

Operating Instructions

Watching the TV

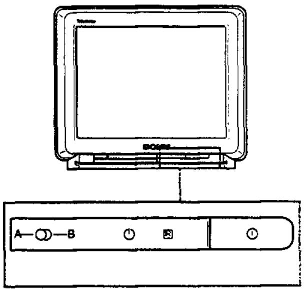


If no picture appears when you depress ⏼ on the TV

and if the standby indicator on the TV is lit, the TV is in standby mode. Press ○ or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off



Switching on

Depress ⏼on the TV.

Switching off temporarily

Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press ○, PROGR +/–, or one of the number buttons on the Remote Commander.

Switching off completely

Depress ⏼ on the TV.

Selecting TV Programmes

Press PROGR +/– or press number buttons.

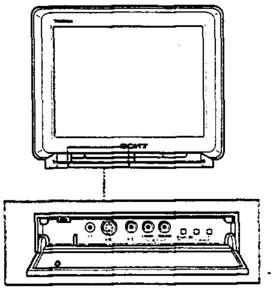
To select a double-digit number

Press -/– –, then the numbers.
For example, if you want to choose 23, press -/– –, 2, and 3.

Adjusting the Volume

Press ⊿ +/–.

Operating the TV Using the Buttons on the TV



With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press P→⊿→⊕ button repeatedly until the programme number, ⊿ (for volume), or →⊕ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to the factory preset level (RESET symbol →•← is displayed).

For details of the teletext operation, refer to page 17.

Watching Teletext or Video Input

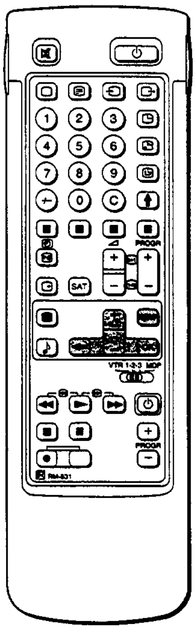
Watching teletext

- Press ⊜ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext operation.
- Press ⊞ (PAGE +) or ⊟ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press ○.

For details of the video input picture, refer to page 21.

Watching a video input picture

Press ⊸ repeatedly until the desired video input appears. To go back to the normal TV picture, press ○.



More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⊕ once to display all the indications. They will disappear after some seconds.
- Press ⊕ twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

Muting the sound.

Press 🔇.
To resume normal sound, press 🔇 again.

Displaying the time

Press ⊙. This function is available only when teletext is broadcast.
To make the time display disappear, press ⊙ again.

Displaying of the Programme Table

Press OK. A Programme Table will be displayed on the right side of the TV screen (See. Fig.28)

Selecting of TV programmes

Press PROGR +/- or select the desired programme position using △+ or ▽– and press OK.

To make the Programme Table disappear
Press MENU.

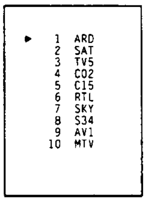
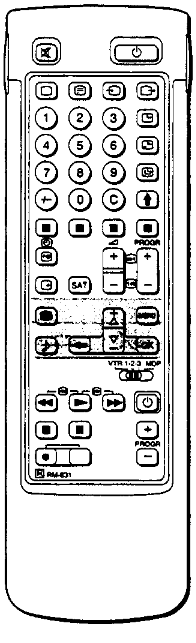

▸ 1 ARD
2 SAT
3 TV5
4 C02
5 C15
6 RTL
7 SKY
8 S34
9 AV1
10 MTV

Fig.28.

Adjusting and Setting the TV Using the Menu

PICTURE CONTROL
SOUND CONTROL



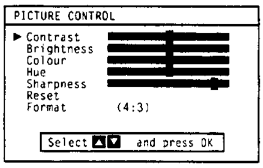
Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones (🎧).

1. Press ● (for picture) or ♪ (for sound) on the Remote Commander.

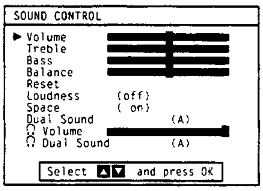
   or

   Press MENU and select `Picture Control` or `Sound Control`, then press OK.
   The `PICTURE CONTROL` or `SOUND CONTROL` menu appears. (See Fig. 29 or Fig. 30)
2. Using △+ or ▽–, select the item you want to adjust and press OK.The selected item changes colour. (See Fig. 31)
3. Adjust the setting with △+ or ▽ – and press OK.
   The cursor appears beside the next item (at the left margin). (See Fig. 32)
   For the effect of each control, see the table below.
4. Repeat steps 2 and 3 to adjust other items.



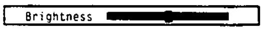
```
PICTURE CONTROL
▶ Contrast
  Brightness
  Colour
  Hue
  Sharpness
  Reset
  Format        (4:3)

   Select ▲▼  and press OK
```

Fig. 29.



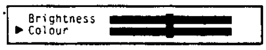
```
SOUND CONTROL
▶ Volume
  Treble
  Bass
  Balance
  Reset
  Loudness      (off)
  Space         ( on)
  Dual Sound              (A)
  🎧 Volume
  🎧 Dual Sound           (A)

   Select ▲▼  and press OK
```

Fig. 30.



```
  Brightness
```

Fig. 31.



```
  Brightness
▶ Colour
```

Fig. 32.

Effect of each control

PICTURE CONTROL	Effect
Contrast	Less —I— More
Brightness	Darker —I— Brighter
Colour	Less —I— More
Hue	Greenish —I— Reddish
Sharpness	Softer —I— Sharper
Reset	Resets picture to the factory preset levels.
Format	4 : 3 : Normal 16 : 9 : Wide screen effect

SOUND CONTROL	Effect
Volume	Less —I— More
Treble	Less —I— More
Bass	Less —I— More
Balance	More left —I— More right
Reset	Resets sound to the factory preset levels.
Loudness	off : Normal on : When listening to low volume sound.
Space	off : Normal on : Obtain acoustic sound effect.
Dual Sound	A : left channel B : right channel stereo mono The selected mode of the A-◯-B indicator on the TV lights up. (for NICAM broadcasts see next page)
Headphones:	
🎧 Volume	Less —I— More
🎧 Dual Sound	A : left channel B : right channel STEREO MONO

If you have made a mistake:
Press ← to go back to the previous position.
To go back to the main menu:
Keep pressing ←.
To go back to the normal TV picture:
Press MENU.

Note:
HUE is only available for NTSC colour system.

Note on LINE OUT:
The audio level and the dual sound mode output from the ⊖ jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.

When watching a video input source with stereo sound:
You can select DUAL SOUND to change the sound.

*Selecting Nicam Broadcasts**

This Sony TV has been designed to select Nicam broadcasts when available. Whenever a Nicam broadcast is received, "NICAM" appears briefly on the screen. When the Nicam programme ends, or you switch channels to one without Nicam, the A-ꝏ-B indicators, on the TV will switch off.

Nicam programmes can be broadcast in two ways. You may select the sound you want to hear in either of these by first following the instructions explained on page 15.

Service Being Broadcast	**Action**	**Effect**	**Indication on the TV A-ꝏ-B**	
Stereo	Press △+ or ▽–	Stereo Nicam (Mono 2-Channel) mono	■ ▭	■ ▭
Press △+ or ▽– again to return to stereo Nicam (mono 2-channel)				
Bilingual	press △+ or ▽–	Channel A Nicam Channel B Nicam mono	■ ▭ ▭	▭ ■ ▭
Press △+ or ▽– again to return to channel A Nicam				

* Depending on availability of service.

PROGRAMME TABLE

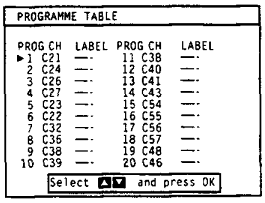
To go back to the normal TV picture:
Press MENU.

Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

1 From the main menu, select `Programme Table` with △+ or ▽– and press OK.
The `PROGRAMME TABLE` menu appears. (See Fig. 33)
To scroll to higher programme numbers, press ▽–.

2 To select a programme using this menu select the programme number with △+ or ▽– and press OK.
The selected programme appears.



```
PROGRAMME TABLE

PROG CH  LABEL  PROG CH   LABEL
▶1  C21  —·      11  C38  —·
 2  C24  —·      12  C40  —·
 3  C26  —·      13  C41  —·
 4  C27  —·      14  C43  —·
 5  C23  —·      15  C54  —·
 6  C22  —·      16  C55  —·
 7  C32  —·      17  C56  —·
 8  C36  —·      18  C57  —·
 9  C38  —·      19  C48  —·
10  C39  —·      20  C46  —·
      Select ▲▼  and press OK
```

Fig. 33.

TIMER

To switch off the timer:
Select "OFF" in step 3.

To check the remaining time:
Press ⊕.

Using the Sleep Timer

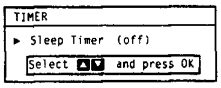
You can select a time period after which the TV automatically switches into standby mode.

1 From the main menu, select `Timer` with △+ or ▽– and press OK.
The `TIMER` menu appears. (See Fig. 34.)

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽–.
The time period (in minutes) changes as follows:
10→20→30→40→50→60→70→80→90
↑———— OFF ————┘

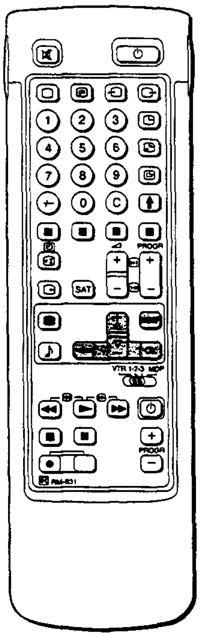
4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.



```
TIMER

▶ Sleep Timer  (off)
 Select ▲▼  and press OK
```

Fig. 34.

Teletext



Note:
Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Commander:
You can switch teletext on and off, operate Fastext, and directly select page numbers.

TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ⊜ to switch on teletext.
A teletext page will be displayed (usually the index page).If there is no teletext broadcast, "No text available" is displayed on the informa-tion line at the top of the screen.

To switch teletext off
Press ○.

Selecting a teletext page

With direct page selection

Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number.

With page-catching

1 Select a teletext page with a page overview (e.g. index page).

2 Press OK. Using △+ or ▽–, select the desired page. "Page Catching" will be displayed on the information line. Press OK. The requested page will appear in a few seconds.

Press ⊜ to resume normal teletext reception.

Accessing next or preceding page

Press ⊕ (PAGE +) or ⊖ (PAGE –).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

- Press ⊜ once in teletext mode or twice in TV mode.
- Press ⊜ again to resume normal teletext reception.

Preventing a teletext page from being updated

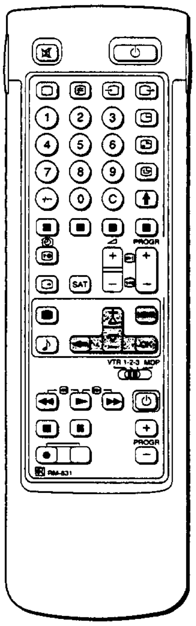
- Press ⊞ (HOLD). The HOLD symbol "⊞" is displayed on the information line.
- Press ⊜ to resume normal teletext reception.

Using Fastext

Note:
Fastext operation is only possible, if the TV station broadcasts Fastext signals.

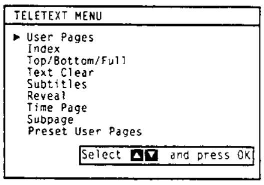
With Fastext you can access pages with one key stroke.When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.

Using the Teletext Menu



This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

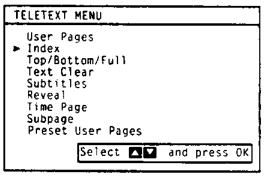
1. Press MENU. The menu will be superimposed on the teletext display. (See Fig. 35)
2. Using △+ or ▽–, select the teletext function you want and press OK. (See Fig. 36)



TELETEXT MENU
- ► User Pages
- Index
- Top/Bottom/Full
- Text Clear
- Subtitles
- Reveal
- Time Page
- Subpage
- Preset User Pages

Select ▲▼ and press OK

Fig. 35.



TELETEXT MENU
- User Pages
- ► Index
- Top/Bottom/Full
- Text Clear
- Subtitles
- Reveal
- Time Page
- Subpage
- Preset User Pages

Select ▲▼ and press OK

Fig. 36.

USER PAGES/PRESET USER PAGES

See page 19 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display with the ability to scroll up and down the screen. After having selected the function, an information line `Top/Bottom/Full` will be displayed. (See Fig. 37)

Press △+ for `Top` to enlarge the upper half. For `Bottom` keep pressing ▽–, to enlarge the lower half. Press OK for `Full` to resume the normal size.

Press ⊜ to resume normal teletext reception.

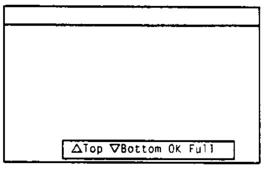


Fig. 37.

Note:
Some of the features may not be available depending on the Teletext service.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (see Fig. 38).

Press ⊜ to view the requested page.

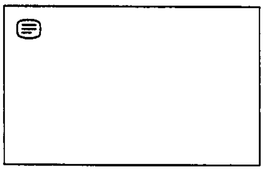


Fig. 38.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

Note on Subtitles:
If the subtitles are not broadcast on page 888, please select the subtitle page using the number buttons.

REVEAL

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line "REVEAL ON/OFF" will be displayed. (See Fig. 39)

Using △+ or ▽–, select ON to reveal the information or OFF to conceal it again.

Press ⊜ to resume normal teletext reception.

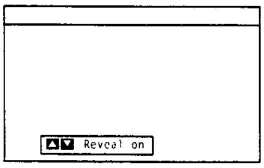


Fig. 39.

TIME PAGE

This function is not available.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed.

To select the desired subpage, enter four digits using PROGR+/– or the number buttons. (e.g. enter 0002 for the second page of a sequence).

To cancel the request:
Select "Subpage" and press OK.

If two broadcasting stations use the same Teletext:
You can preset one bank to 2 different programme positions.

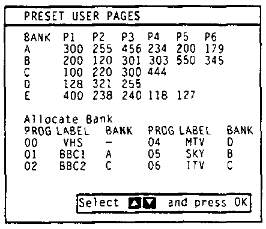
User Page Bank System

You can store up to 30 pages in the "Teletext page bank system". In this way you have quick access to the pages you watch frequently.

Storing pages

There are 5 "banks" (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

1. Press ⊜ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.
2. Select `PRESET USER PAGES` with △+ or ▽− and press OK.
3. Select the desired bank with △+ or ▽− and press OK. The cursor will go to the first position (P1) of the preferred pages.
4. Input the three digits of your first preferred page with the number buttons and press OK.
   The cursor will go to the second position.
5. Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.
6. Select `Allocate Bank` with △+ or ▽− and press OK.
7. Select the programme position for which you have preset pages with △+ or ▽− and press OK. (See Fig. 40)
8. Select the desired bank with △+ or ▽− (Banks A to E are available) and press OK.
9. Repeat steps 3 to 8 for the other 4 banks available.



PRESET USER PAGES

BANK	P1	P2	P3	P4	P5	P6
A	300	255	456	234	200	179
B	200	120	301	303	550	345
C	100	220	300	444		
D	128	321	255			
E	400	238	240	118	127	

Allocate Bank

PROG	LABEL	BANK	PROG	LABEL	BANK
00	VHS	–	04	MTV	D
01	BBC1	A	05	SKY	B
02	BBC2	C	06	ITV	C

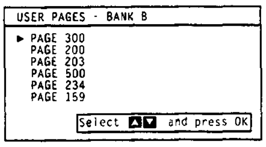
Fig.40.

Displaying User Pages

1. Select MENU.
2. Select `User Pages` with △+ or ▽− and press OK.
   A table of the stored preferred pages will be displayed.
   (See Fig. 41)
3. Select the desired page with △+ or ▽− and press OK. The page will be displayed after some seconds.

You can use the coloured buttons on the Remote Commander to have quick access to the first four User pages. Page 1 corresponds to the red button, P 2 to the green one, P 3 to the yellow one and P 4 to the blue button.

To select the desired page press the respective coloured button while you are in TV mode. Now the Page number of this teletext page will appear in white at the top in the left-handed corner of the TV screen. When the page number changes colour, the page is available. Press the coloured button again to display the page.



USER PAGES - BANK B

▶ PAGE 300
PAGE 200
PAGE 203
PAGE 500
PAGE 234
PAGE 159

Fig. 41.

Connecting and Operating Optional Equipment

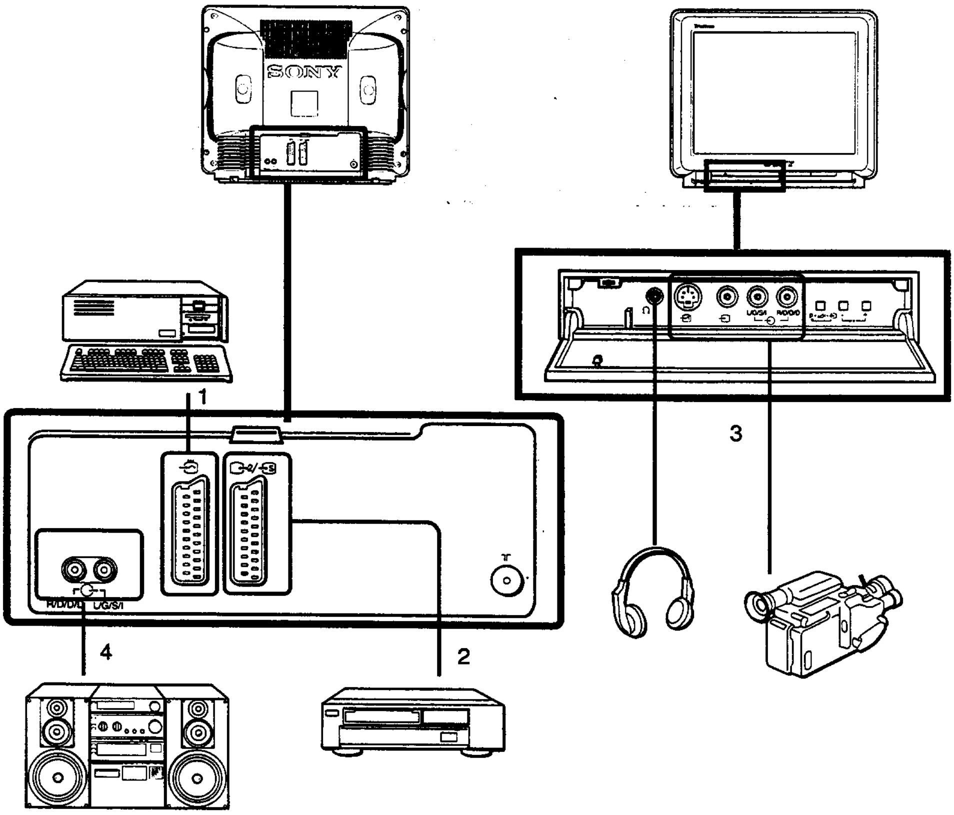
Connecting Optional Equipment

You can connect optional audio-video equipment to this TV such as VTRs, video disc players, and stereo systems.

To connect a VTR using the ᛘ terminal: Connect the aerial output of the VTR to the aerial terminal ᛘ of the TV.

We recommend that you tune in the signal to programme number "0". For details see "Preset Channels Manually" on page 8.

If the picture or the sound is distorted: Move the VTR away from the TV.



S video input (Y/C input): Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with 2 S Video input jacks through which these separated signals can be input directly.

Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)

When connecting a monaural VTR: Connect only the white ⊖ jack to both the TV and VTR.

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

1 Select `Video Connection` with △+ or ▽– and press OK. The `VIDEO CONNECTION` menu appears. (See Fig. 42)

You can see which source is selected for the TV and for the output. If you want to select the input and output on this menu, go on to the next step.

2 Select TV Screen (input source for the TV screen) or output (output source) with △+ or ▽– and press OK. One of the source items changes colour. (See Fig. 43)

3 Select the desired source with △+ or ▽–.
(See Fig. 44)
For details about each source, see the table on page 21.

4 Press OK.

The selected source is confirmed, and the cursor appears. (See Fig. 45)

5 Repeat steps 2 to 4 to select the source for other inputs or outputs.

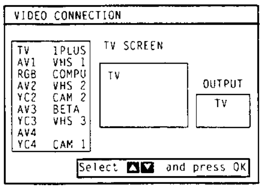

VIDEO CONNECTION
TV 1PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
AV4
YC4 CAM 1
TV SCREEN
TV
OUTPUT
TV
Select ▲▼ and press OK

Fig. 42.

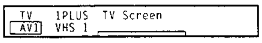

TV 1PLUS
AV1 VHS 1
TV Screen

Fig. 43.

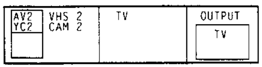

AV2 VHS 2
YC2 CAM 2
TV
OUTPUT
TV

Fig. 44.

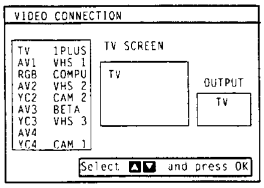

VIDEO CONNECTION
TV 1PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
AV4
YC4 CAM 1
TV SCREEN
TV
OUTPUT
TV
Select ▲▼ and press OK

Fig. 45.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VTRs or video disc players.

Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

VTR 1: Beta or ED Beta VTR

VTR 2: 8mm VTR

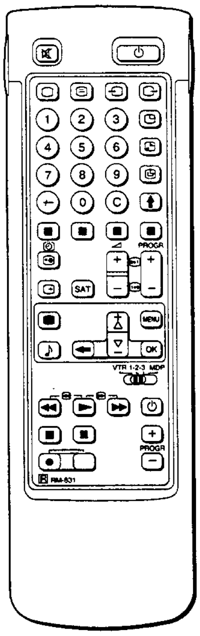
VTR 3: VHS VTR

MDP: Video disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

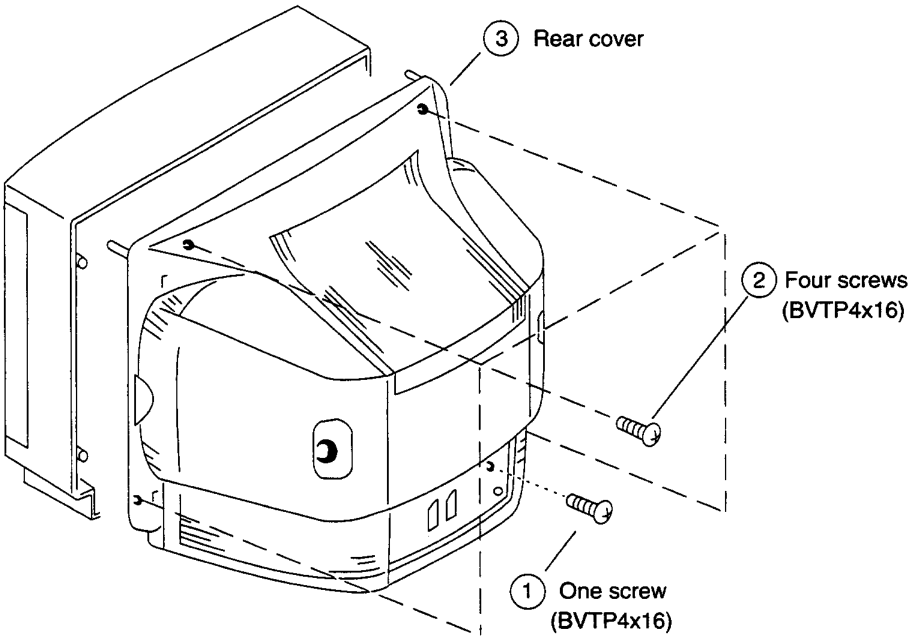
If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.


1
2
3
4
5
6
7
8
9
0
C
PROGR
SAT
MENU
OK
VTR 1·2·3 MDP
PROGR

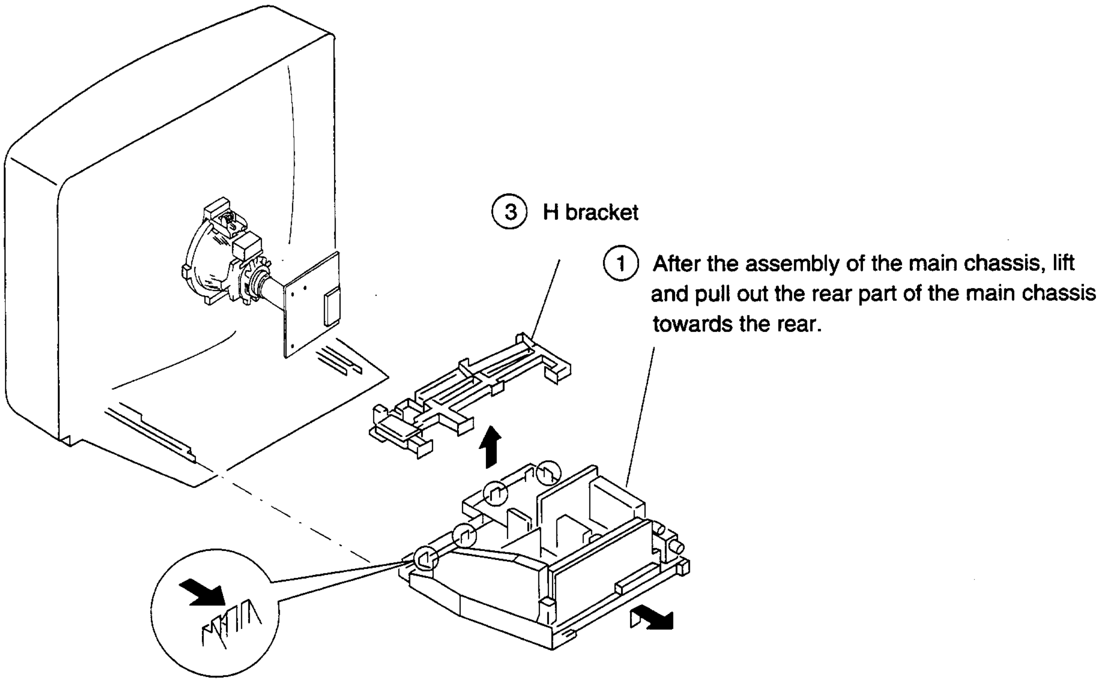
When recording
When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL


③ Rear cover
② Four screws
(BVTP4x16)
① One screw
(BVTP4x16)

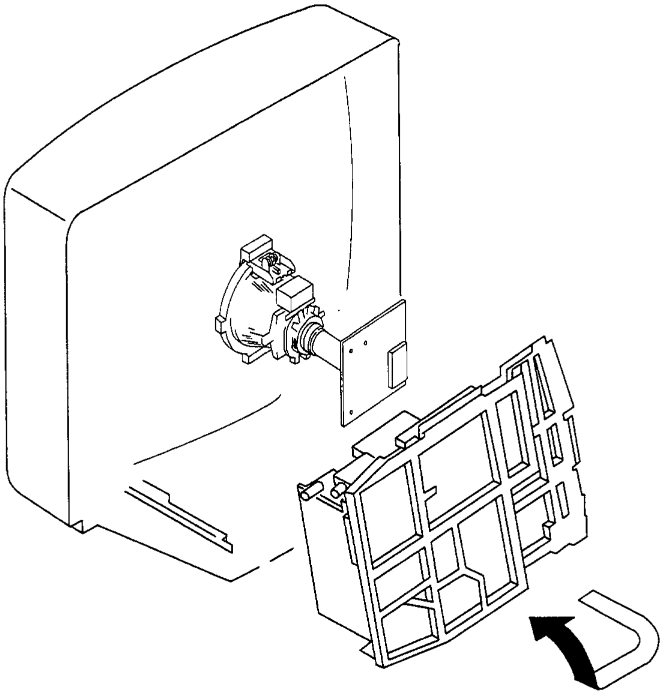
2-2. CHASSIS ASSY REMOVAL



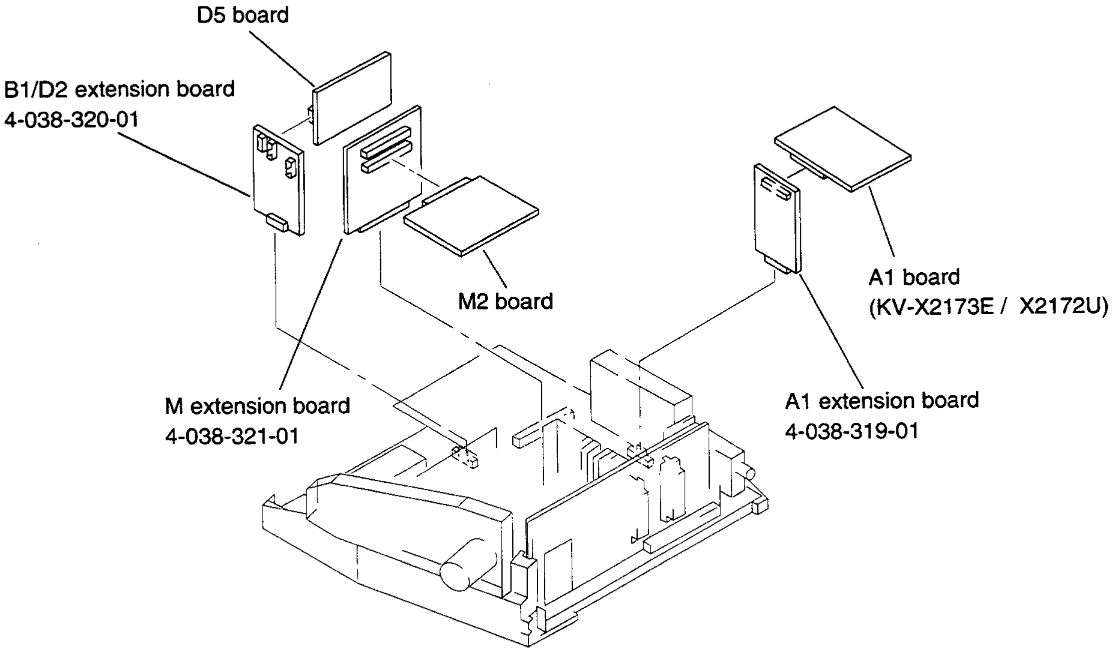
① After the assembly of the main chassis, lift and pull out the rear part of the main chassis towards the rear.

② Push the four claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

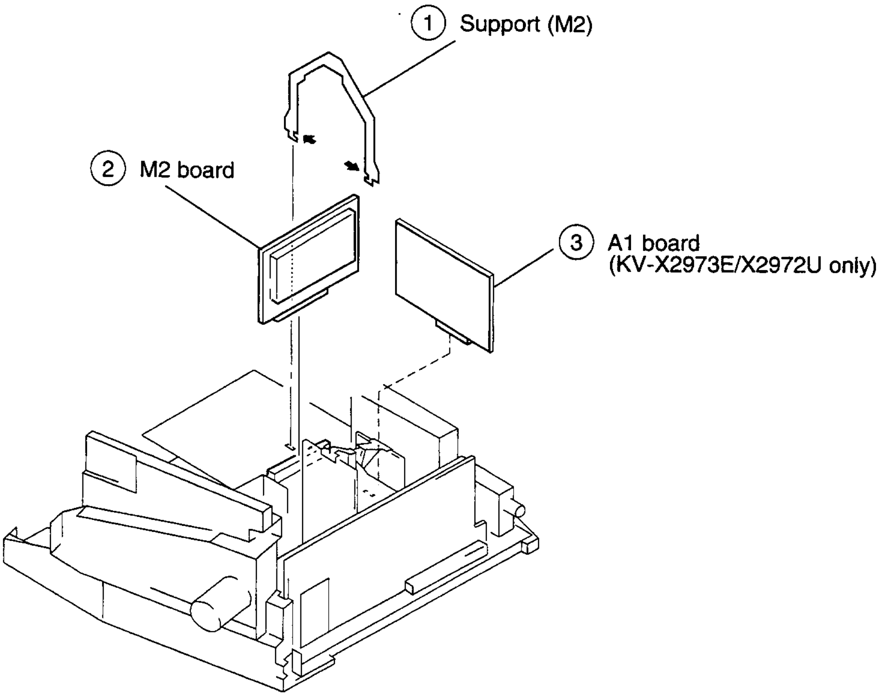
2-3. SERVICE POSITION



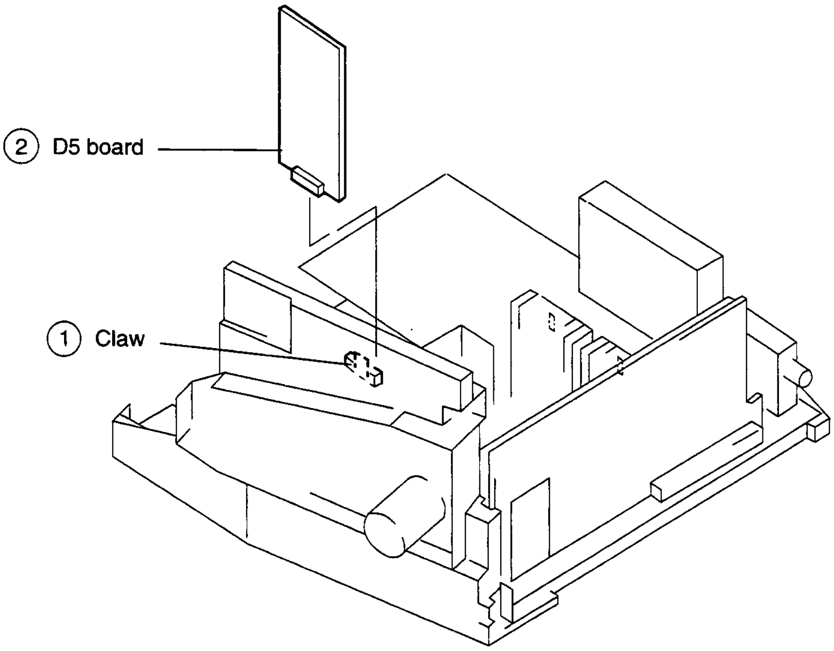
2-4. EXTENSION BOARDS


D5 board
B1/D2 extension board
4-038-320-01
M2 board
A1 board
(KV-X2173E / X2172U)
M extension board
4-038-321-01
A1 extension board
4-038-319-01

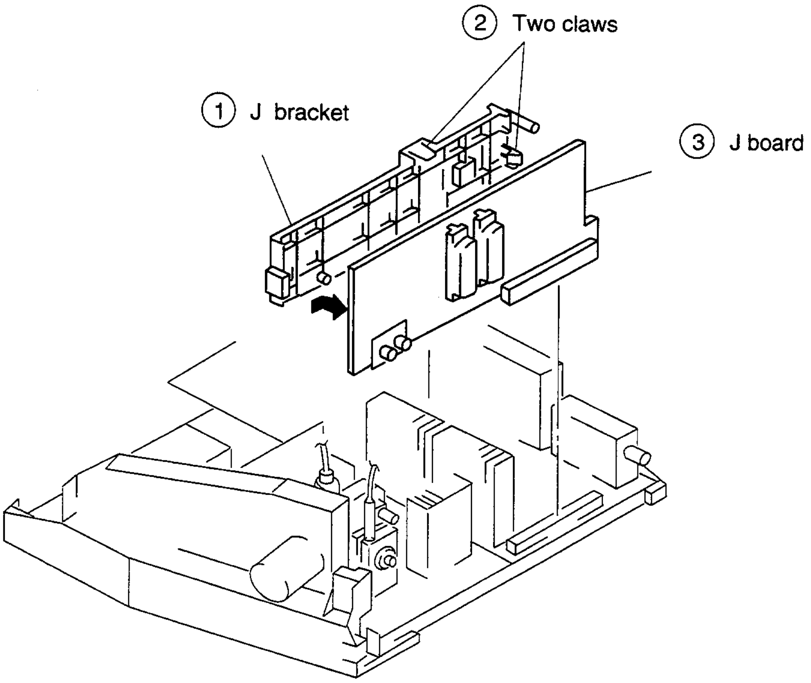
2-5. M2 AND A1 BOARD REMOVAL


① Support (M2)
② M2 board
③ A1 board
(KV-X2973E/X2972U only)

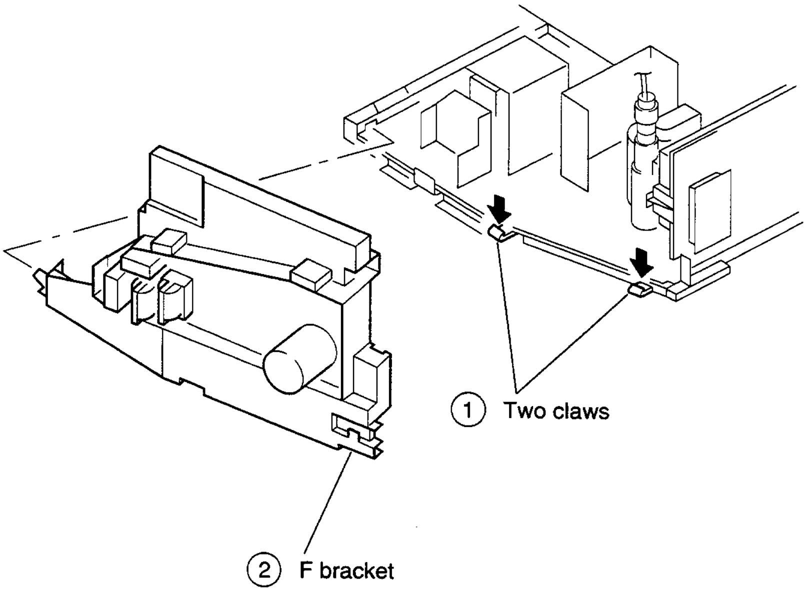
2-6. D5 BOARD REMOVAL


② D5 board
① Claw

2-7. J BOARD REMOVAL

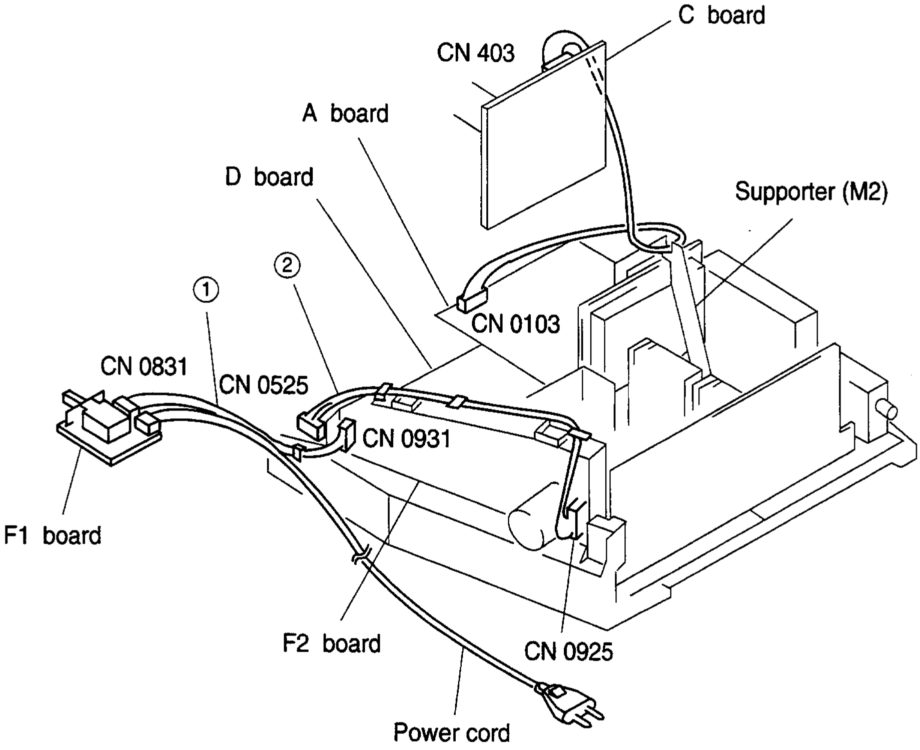

② Two claws
① J bracket
③ J board

2-8. F BRACKET REMOVAL

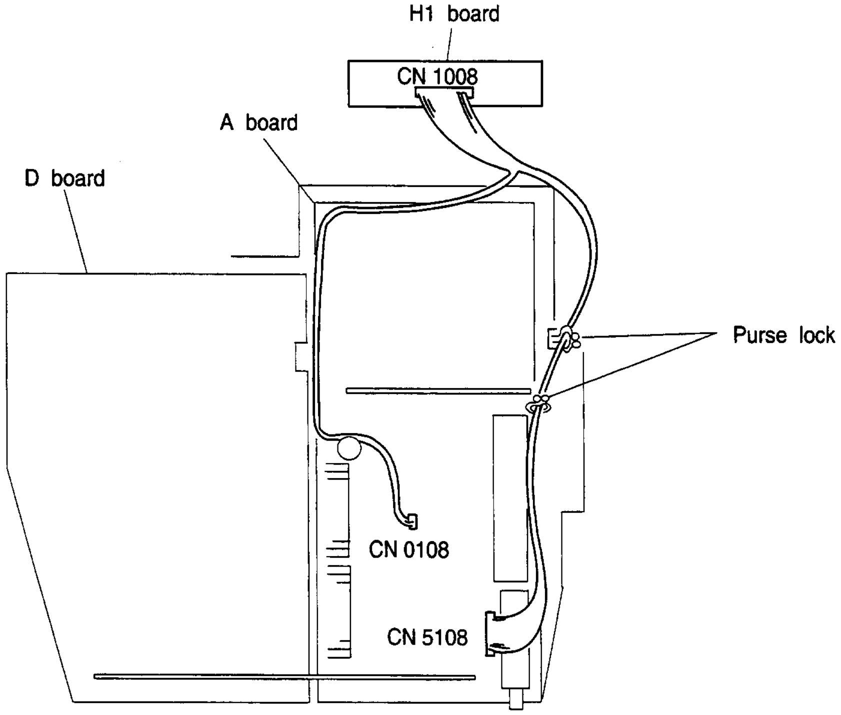

① Two claws
② F bracket

2-9-1. WIRE DRESSING

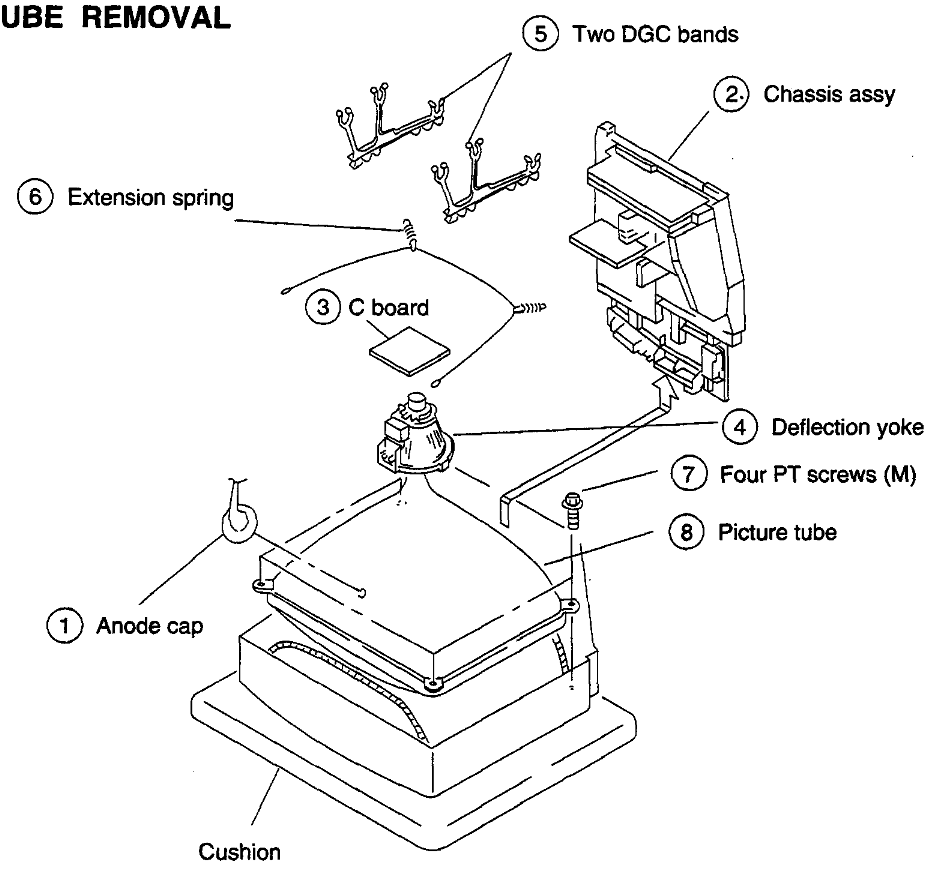
* Keep distance between ① and ②


C board
CN 403
A board
D board
Supporter (M2)
②
①
CN 0103
CN 0831
CN 0525
CN 0931
F1 board
F2 board
CN 0925
Power cord

2-9-2. WIRE DRESSING


H1 board
CN 1008
A board
D board
Purse lock
CN 0108
CN 5108

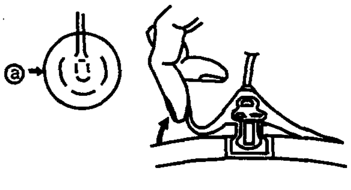
2-10. PICTURE TUBE REMOVAL

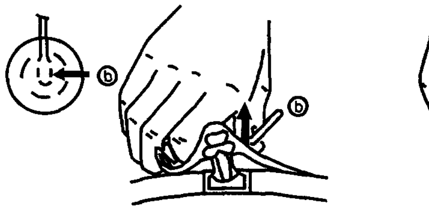

⑤ Two DGC bands
② Chassis assy
⑥ Extension spring
③ C board
④ Deflection yoke
⑦ Four PT screws (M)
⑧ Picture tube
① Anode cap
Cushion

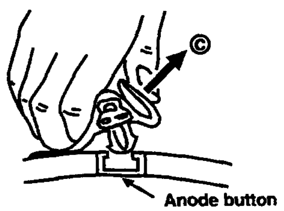
• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

*** REMOVING PROCEDURES.**






ⓒ
Anode button

① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

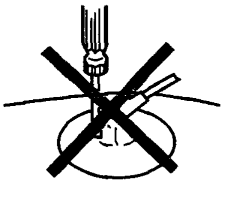
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

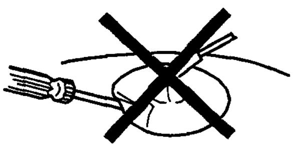
• HOW TO HANDLE AN ANODE-CAP

① Don't damage the surface of anode-cap with sharp shaped material !

② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.

③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or damage the rubber.





SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch below should be set as follows unless otherwise noted :

◑ CONTRASTcontrol········ 80%(or Normal by commander)

☼ BRIGHTNESS control···· 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

Note: Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:

- Set the side of the unit with the PICTUE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.
   CONTRAST } normal
   BRIGHTNESS }
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and blue and confirm the condition.
6. When the position of the deflection yoke is determined,tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

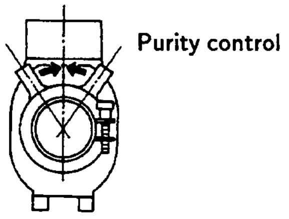

Purity control

Fig.3-2

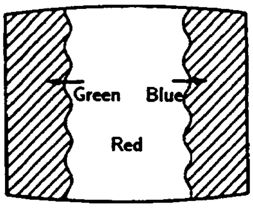

Green
Blue
Red

Fig.3-3

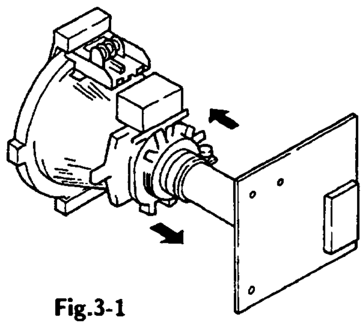


Fig.3-1

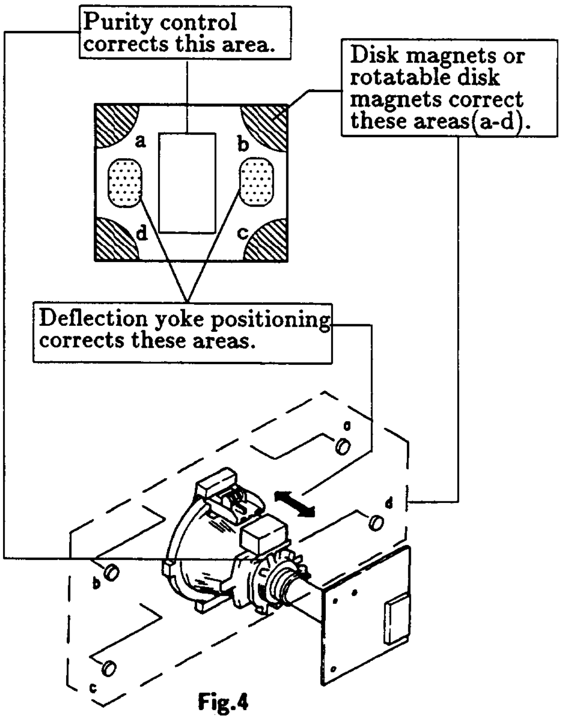

Purity control corrects this area.
Disk magnets or rotatable disk magnets correct these areas(a-d).
a
b
c
d
Deflection yoke positioning corrects these areas.
a
b
c
d

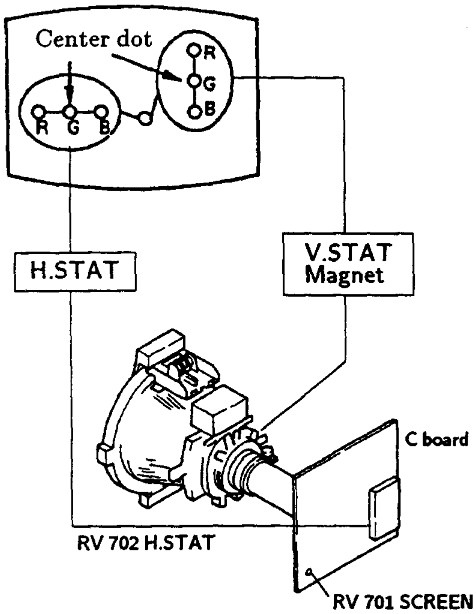
Fig.4

3-2. CONVERGENCE

Preparation:

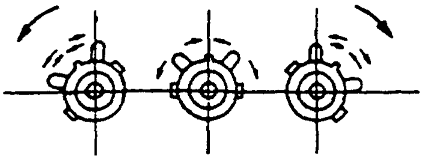
- Before starting, perform FOCUS, H.SIZE, and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

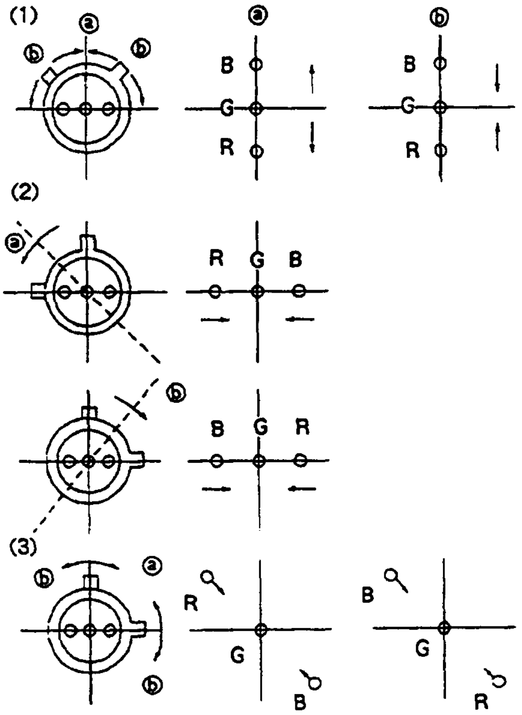


1. Adjust H.STAT VR to converge red, green and blue dots the in center of the screen.(Horizontal movement)
2. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)
3. If the red, green and blue dots do not converge on the center of screen with H.STAT VR, perform horizontal convergence adjustment using H.STAT VR and V.STAT magnet as shown below. (In this case, H.STAT VR and V.STAT magnet effect each other.)

- Tilt the V.STAT magnet and adjust static convergence to open or close the V.STAT magnet.



4.When the V.STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

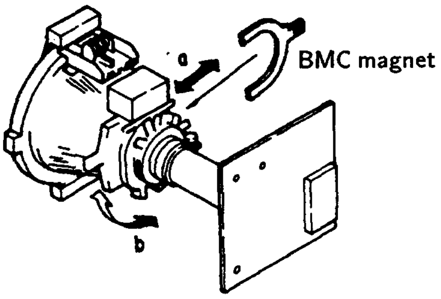


If the red and blue dot do not converge with green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H.static convergence.

Rotate BMC magnet (b) to correct insufficient V.static convergence.

In either case, repeat Beam Landing Adjustment.

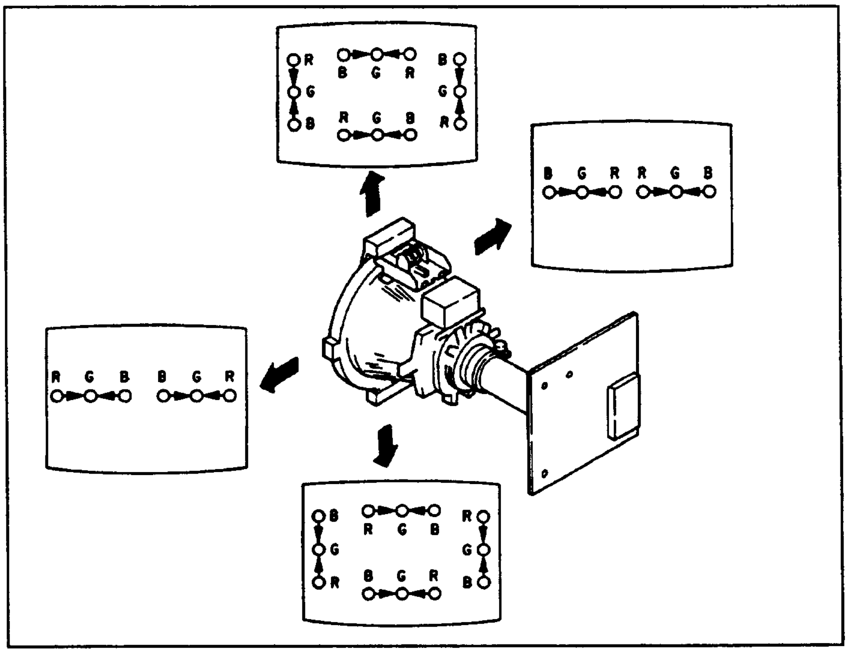


(2)Dynamic Convergence Adjustment

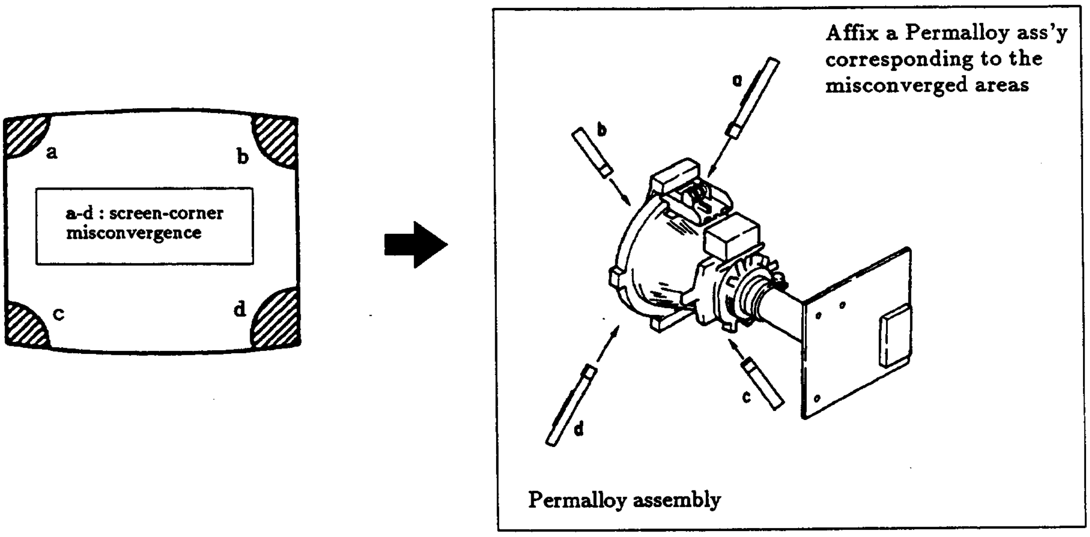
Preparation:

- Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergenceas shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.


R G B B G R
B G R R G B
R B G B R G
B R G R B G
R G B B G R
B G R R G B

(3) Screen-corner Convergence

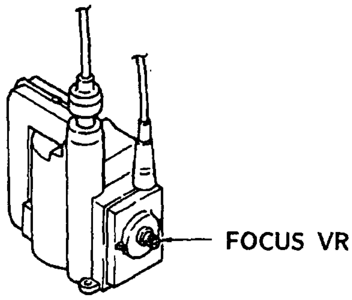

a
b
c
d
a-d : screen-corner misconvergence
a
b
c
d

Affix a Permalloy ass'y corresponding to the misconverged areas

Permalloy assembly

3-3. FOCUS

Adjust FOCUS so that the whole screen is in best focus.



3-4. WHITE BALANCE

Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 701 (Screen) to the point just before the return lines disappear.

White balance adjustment

1. Receive all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" to how to enter service mode.)
3. Select CXA 1587 on menu.

09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.

4. Set picture to MAX.
5. Adjust G-DRIVE B-DRIVE with ▲, ▼ buttons so that the white balance becomes optimum.
6. Press OK button to write the data for each item.
7. Set picture to MIN.
8. Adjust G-AUTO CUT OFF, B-AUTO CUT OFF, R-MANUAL CUT OFF, G-MANUAL CUT OFF and B-MANUAL CUT OFF with ▲, ▼ buttons so that the white balance becomes optimum.
9. Press OK button to write the data for each item.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.

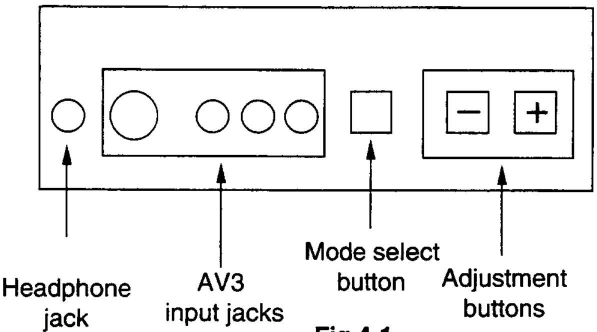


Fig.4-1

2. "TT" will appear at the upper right corner of the screen.

Command operation in service mode.

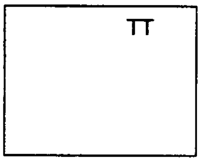


Fig.4-2

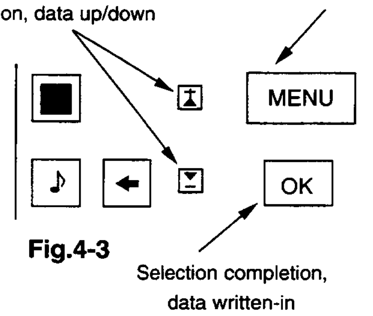

Item selection, data up/down
Menu identification
MENU
OK
Selection completion, data written-in

Fig.4-3

3. Press the MENU button on the remote commander to obtain the menu on the screen.

MAIN MENU
Programme Table
Video Connection
Picture Control
Sound Control
Timer
Preset
Language
> DEMO
Select < > and press OK

Fig.4-4

4. Press the ▲ and ▼ buttons on the remote commander and move > to DEMO.
5. Press OK button to proceed to the next menu.
6. The menu of fig. 4-5 will appear on the screen. Select the DEVICE corresponding to the adjustment item from the table on the next page.

DEVICES
Initialize
> CXA1587
CXD2018
TDA9145
CXA1526
TDA6612
CX7948A
P/P service
Select < > and press OK

Fig. 4-5

7. If adjustment item is CXA1587, press the ▼ button and move > to CXA1587.

CXA1587

Item No	Adjustment item	Data Amount
01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	12
06	RGB PICTURE	7
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
> 09	SUB BRIGHT	ADJ.
10	SUB HUE	8
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.

8. Press OK button to get the next selection menu.
9. Press ▼ button and move > to the adjustment item and press OK button.
10. Press ▲ and ▼ buttons to change the data in order to comply with each standard.
11. Press OK button to write data.
12. Turn off the power to quit service mode when adjustments are completed.

CXA1587

Item No	Adjustment item.	Data Amount
01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	12
06	RGB PICTURE	7
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
09	SUB BRIGHT	ADJ.
10	SUB HUE	8
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.
21	GAMMA LEVEL	8
22	DC TRANSFER RATIO	3
23	DYNAMIC PICTURE	2
24	Y FILTER ADJ	ADJ.
25	Y DELAY TIME	15
26	Y DELAY SWITCH 1	0
27	Y DELAY SWITCH 2	1
28	SHARPNESS LIMIT	ON
29	TRAP	OFF
30	H SHIFT	36
31	DA TEST	ON
32	PRE/OVER	12
33	SUB FOCUS	2
34	SUB SHARPNESS	3
35	R MUTE	OFF
36	G MUTE	OFF
37	B MUTE	OFF
38	AGING 1 WHT	OFF
39	AGING 2 BLK	ON
40	AKB OFF	ON
41	INHIBIT RGB	ON
42	FORCED RGB	OFF
43	V/2 V	OFF
44	AXIS	PAL
45	HUE OFF	OFF
46	V EXTENSION	OFF
47	AFC 1	1
48	AFC 2	0
49	AFC	OFF
50	REF. POSITION	0

CXD2018

Item No	Adjustment item.	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	12
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	INTERLACE	ON
20	H SHIFT	26
21	N/S CORRECTION	ADJ.

Typical On Screen Display based values when receiving PAL Phillips pattern.

TDA6612	ADJ
Stereo-Separation	(31)

Should be adjusted twice, once for 4 : 3 and once for 16 : 9 mode.

Y FILTER ADJUSTMENT

1. Input a PAL RED pattern.
2. Connect an oscilloscope to pin ① of CN0403 (R OUT) on C board.
3. Enter into service mode and press 3,8.
4. Adjust data by △ or ▽ to minimize the chroma element at CN0403 pin ①.

SUB BRIGHTNESS ADJUSTMENT

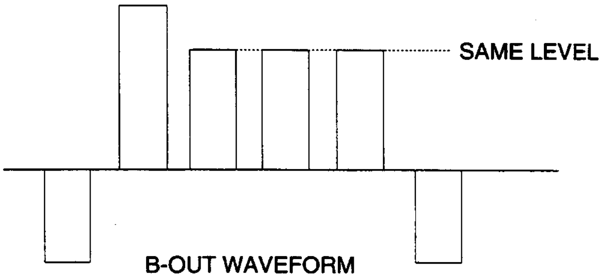
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin ① of CN0403 (R OUT) and adjust data to obtain 2.5Vp-p.

SUB COLOR ADJUSTMENT

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin ③ of CN0403 (B OUT) on the C board.
3. Enter into service mode and press 22 of CXA1587, 8 SUB COLOR.
4. Adjust data so that the right sides of the waveform are set to the same level.



B-OUT WAVEFORM

STEREO-SEPARATION ADJUSTMENT

1. Input a 1kHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and press 19.
3. Adjust data so that sound is not detected in the Right-ch and the Left-ch.

DRIVE AND CUT-OFF

See direct test mode list attached and refer to sub brightness or such for adjustment method.

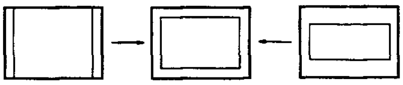
DEFLECTION SYSTEM ADJUSTMENT

1. Enter into service mode and select CXD2018.
2. Select and adjust each item in order to obtain the optimum image.

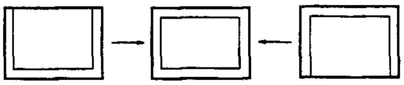
CXD2018

Item No	Adjustment item.	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	12
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	NON INTERLACE	ON
20	H SHIFT	26
21	N/S CORRECTION	ADJ.

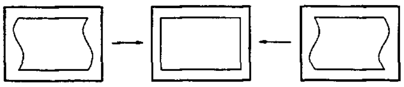
V SIZE



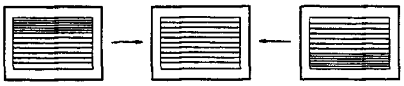
V SHIFT



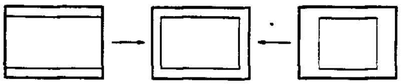
S CORRECTION



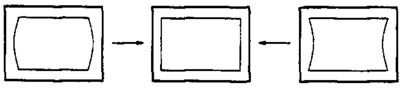
V LINEARITY



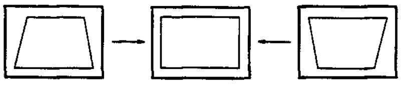
H SIZE



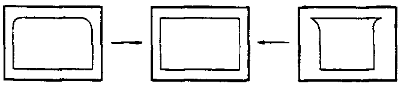
PIN AMP



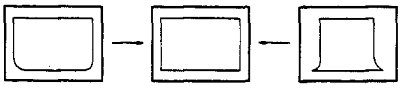
TILT



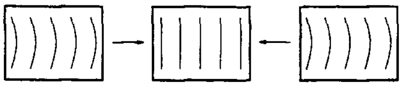
UPPER CORNER PIN



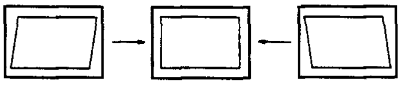
LOWER CORNER PIN



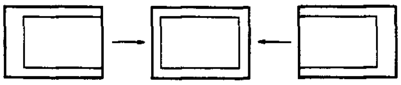
V BOW



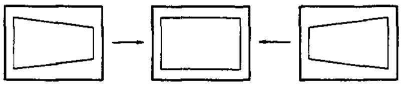
ANGLE



H SHIFT



N/S CORRECTION



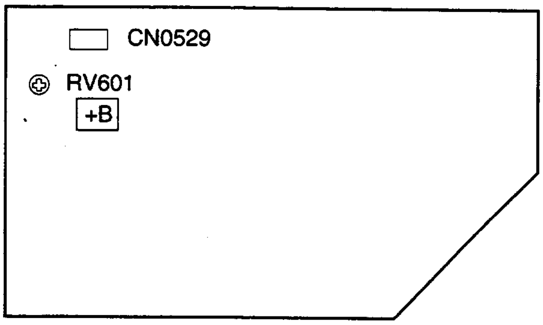
3. Press OK button to write data.

If the menu display prevents accurate adjustment, press [illegible] to clear, to resume, press [illegible] once again.

4-2. VOLUME ELECTRICAL ADJUSTMENTS

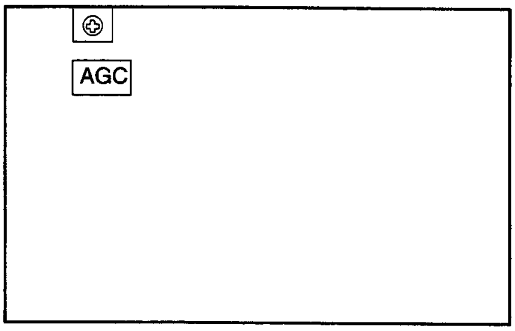
+B (+135V) ADJUSTMENT (RV601)

D BOARD



1. Switch on the power to the TV set.
2. Connect a digital multi-meter to pin ① of CN0529 on D board.
3. Adjust RV601 on D board to +135V ± 0.5V.

AGC ADJUSTMENT (IF BLOCK)



1. Receive an off-air signal.
2. Adjust the AGC VR so that there is no snow noise or cross-modulation visible on the screen.
3. Change the receiving channel and confirm status.

4-3. TEST MODE 2 :

Is available by pressing Test button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max., Ageing 2 Mode of CXA1587, TDA2595 is locked to CXA1587 via PIN 34 of µ-Con.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	dummy
10	Tenth entry is deleted
11	Balance
12	Hue
13	Display of Software Version and TV set configeration
14	Adjustment of N/S Correction
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Level for AV Sources
18	dummy
19	Stereo Seperation
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24-29	dummy

30	Tenth entry is deleted
31	Green Drive
32	Blue Drive
33	Green Cut Off (Auto Cut Off)
34	Blue Cut Off (Auto Cut Off)
35	Red Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
36	Green Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
37	Blue Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
38	Y-Filter adjustment (Trap is switched off and TDA9145 is switched in forced NTSC Mode)
39	dummy
40	Tenth entry is deleted
41	Default setting of CXA1587 (Only available in Prog 99)
42	Default setting of CXA2018 (Only available in Prog 99)
43	Default setting of CXA1526 (Only available in Prog 99)
44	(all Port High) Not yet
45	(all Port High) Not yet
46	IR Channel Pressetting Mode The channel pressetting can be done by a Special IR Transmitter
47-48	dummy
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by µ-Controller. (Not the channel data)

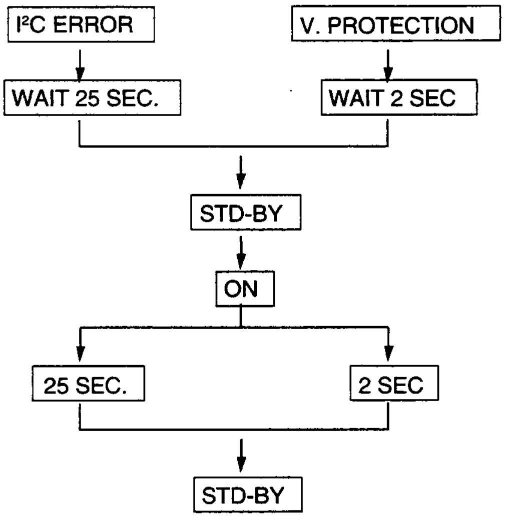
Note: For No 35, 36, 37 and 38 special pressing (AKB, forced Color Mode, Trap) is selected. After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched ON and TDA9145 is switched to Auto Search Mode.

In Test Mode 2 the Menu display is switchable by the Speaker-Off button.

4-4. ERROR MESSAGE

Self diagnostic system operates as follows.

- When the microprocessor is unable to receive an acknowledgement back from the device, the LED starts flashing according to the table below.



In the case of more than one error in parallel, the blinking error shows max priority according to the error number (e.g. error 2 and error 5 appear together, then LED,s show error 2).

ERROR TABLE

ERROR COUNT	IC TYPE	FUNCTION
1	II C BUS	SDA low
2	X24C16	EPROM
4	TDA9145	Colour decoder
5	CXA1587	RGB/Jungle
6	TDA6612	Sound processor
7	CXD2018	V deflection
8	CXA1545	AV switch
11	SDA5248	Text
13		V protection

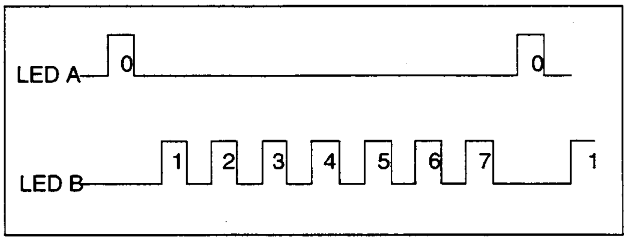
Stand By LED blinking

No 1K return

4-5. ERROR I²C BUS DIAGNOSTIC SYSTEM FOR AE2-B CHASSIS.

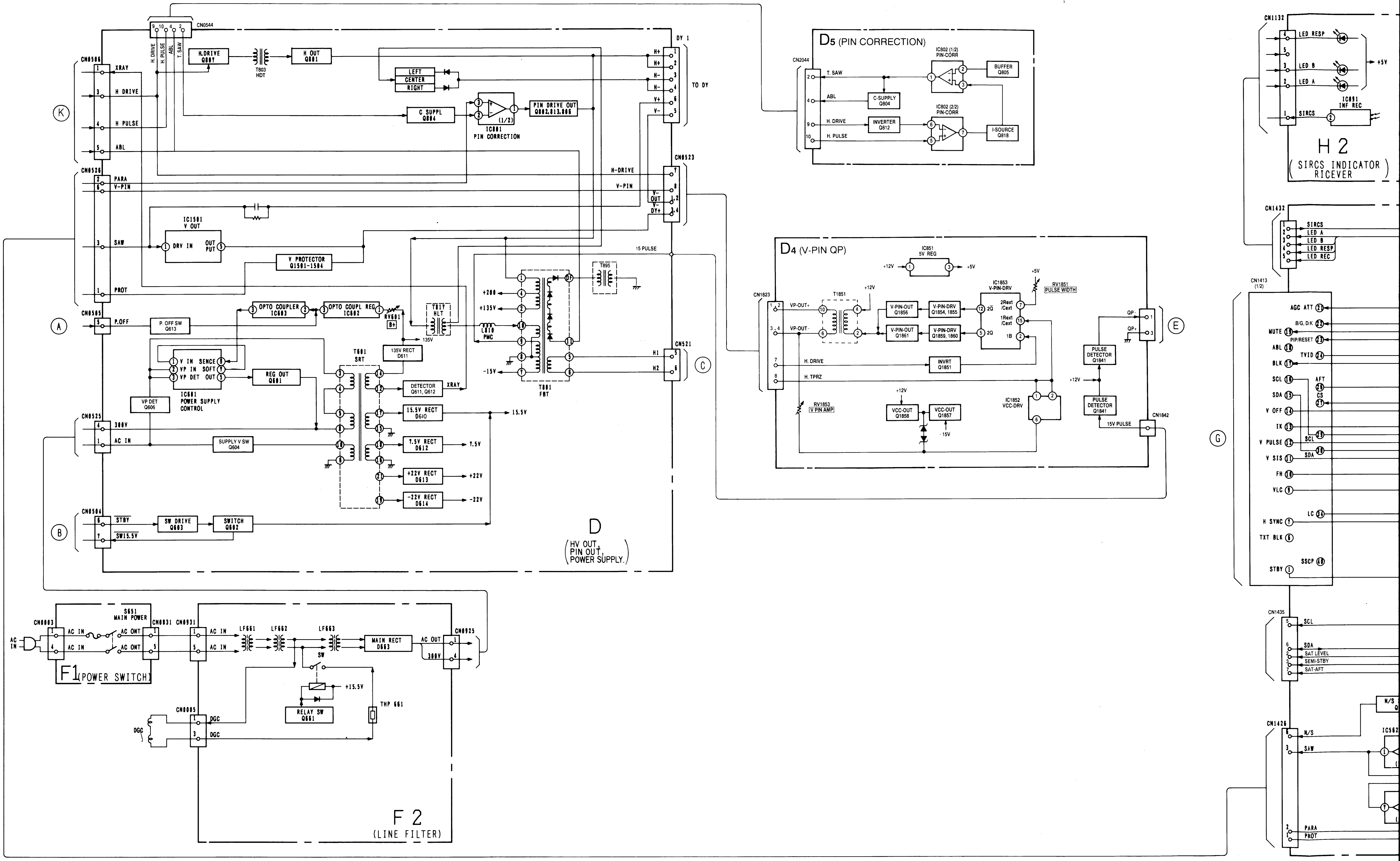
For all IC's used in the AE 2-B chassis which are necessary to obtain picture and sound there is an inbuilt I²C Bus diagnostic system.

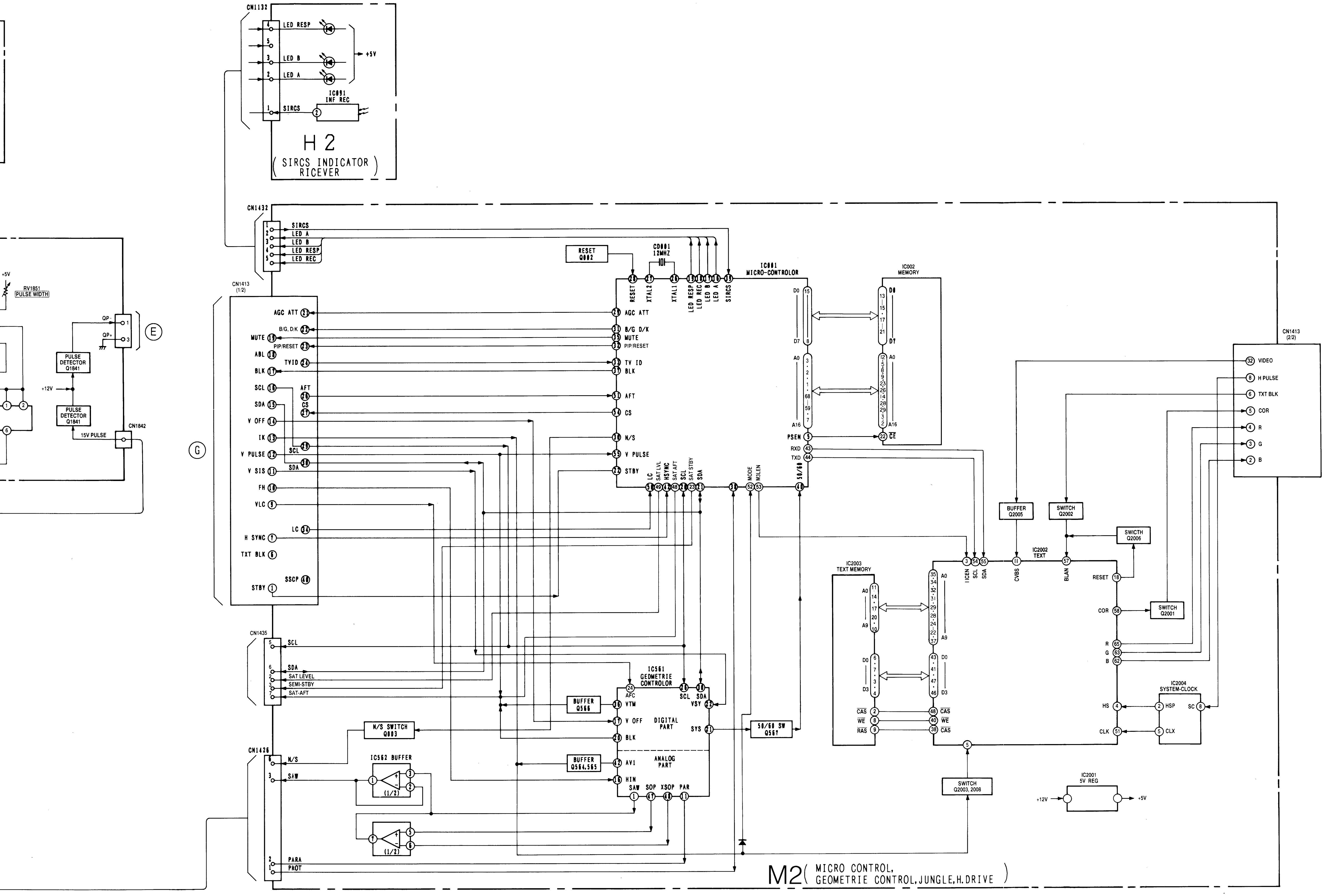
In the case of no acknowledge bit, LED A and LED B start blinking as shown.



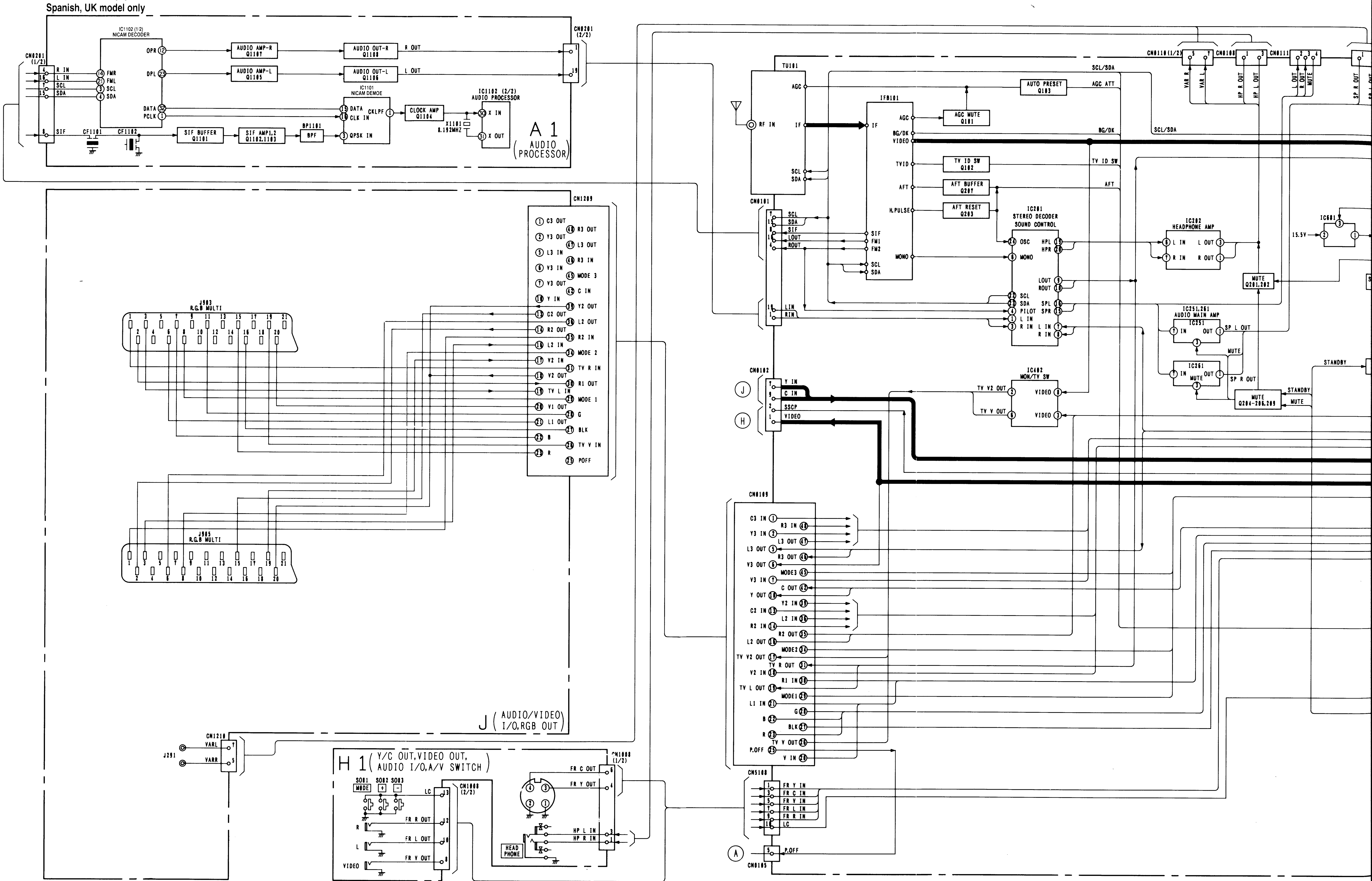
DIAGRAMS

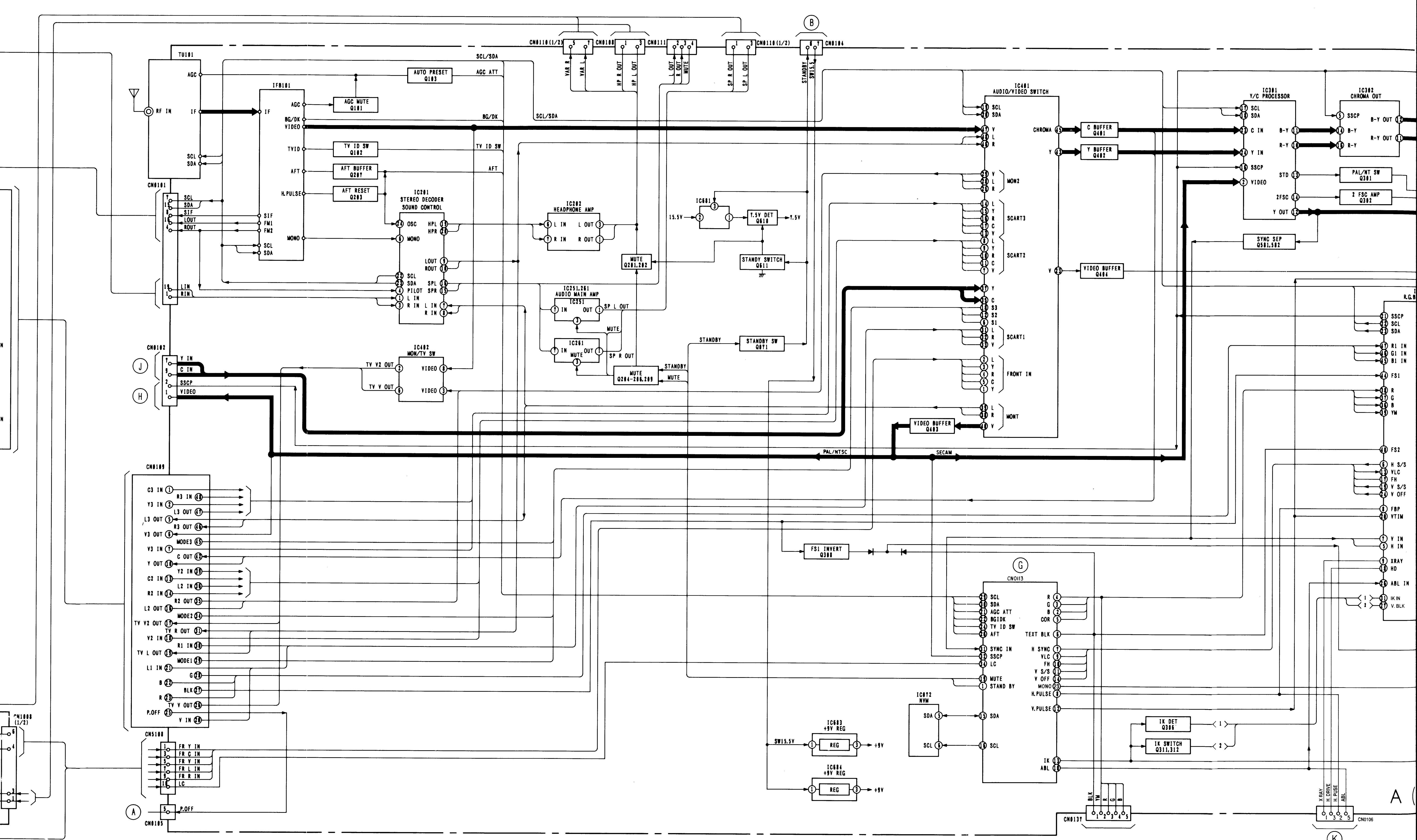
5-1. BLOCK DIAGRAM (1)

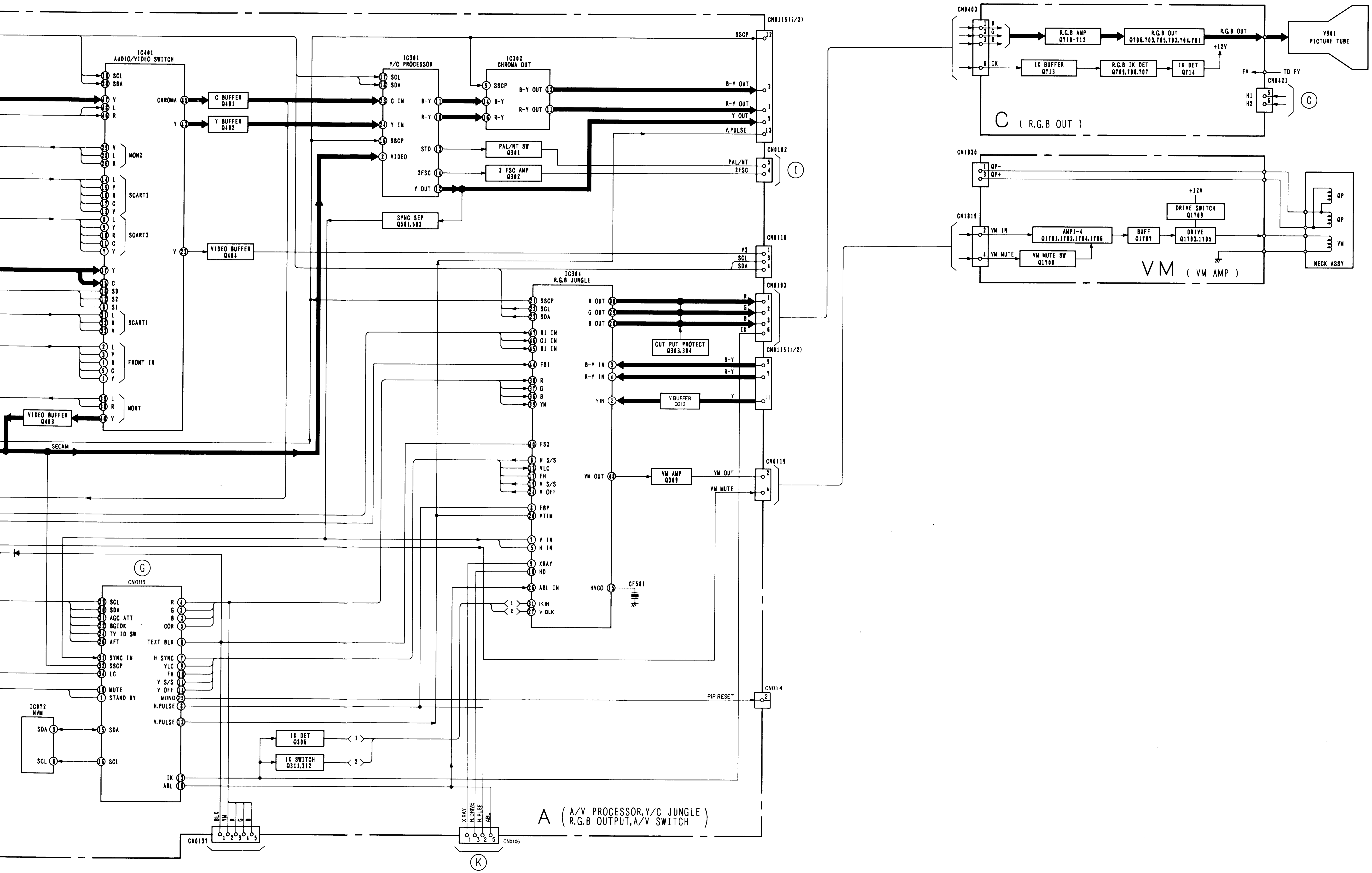

CN0544
H. DRIVE
H. PULSE
ABL
T. SAW
H.DRIVE Q807
T803 HDT
H OUT Q801
LEFT
CENTER
RIGHT
C SUPPL Q804
IC801 PIN CORRECTION
PIN DRIVE OUT Q802,813,806
DY 1
TO DY
CN0506
XRAY
H DRIVE
H PULSE
ABL
K
CN0526
PARA
V-PIN
SAW
PROT
IC1501 V OUT
DRV IN
OUT PUT
V PROTECTOR Q1501-1504
CN0523
H-DRIVE
V-PIN
V- OUT
V- DY+
15 PULSE
T895
CN0505
P.OFF
A
P. OFF SW Q613
OPTO COUPLER IC603
OPTO COUPL REG IC602
RV601
B+
T617 HLT
L810 PMC
T801 FBT
+200
+135V
-15V
135V
135V RECT D611
T601 SRT
IC601 POWER SUPPLY CONTROL
V IN SENCE
VP IN SOFT
VP DET OUT
REG OUT Q601
VP DET Q606
DETECTOR Q611, Q612
XRAY
CN0525
300V
AC IN
SUPPLY V SW Q604
15.5V RECT D610
15.5V
7.5V RECT D612
7.5V
+22V RECT D613
+22V
-22V RECT D614
-22V
CN521
H1
H2
C
CN0504
STBY
SW15.5V
B
SW DRIVE Q603
SWITCH Q602
D
(HV OUT, PIN OUT, POWER SUPPLY)
CN0003
AC IN
S651 MAIN POWER
AC ONT
CN0031
CN0931
F1 (POWER SWITCH)
LF661
LF662
LF663
MAIN RECT D663
AC OUT
CN0925
300V
SW
+15.5V
RELAY SW Q661
THP 661
CN0005
DGC
F 2 (LINE FILTER)
D5 (PIN CORRECTION)
CN2044
T. SAW
ABL
H. DRIVE
H. PULSE
IC802 (1/2) PIN-CORR
BUFFER Q805
C-SUPPLY Q804
INVERTER Q812
IC802 (2/2) PIN-CORR
I-SOURCE Q818
D4 (V-PIN QP)
IC851 5V REG
+12V
+5V
CN1823
VP-OUT+
VP-OUT-
T1851
V-PIN-OUT Q1856
V-PIN-DRV Q1854, 1855
V-PIN-OUT Q1861
V-PIN-DRV Q1859, 1860
IC1853 V-PIN-DRV
2Rext /Cext
1Rext /Cext
RV1851 PULSE WIDTH
H. DRIVE
H. TPRZ
INVRT Q1851
RV1853 V PIN AMP
VCC-OUT Q1858
VCC-OUT Q1857
-15V
IC1852 VCC-DRV
QP-
QP+
PULSE DETECTOR Q1841
CN1842
15V PULSE
E
CN1132
LED RESP
LED B
LED A
SIRCS
IC091 INF REC
+5V
H 2 (SIRCS INDICATOR RICEVER)
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
CN1413 (1/2)
AGC ATT
B/G, D/K
MUTE
PIP/RESET
ABL
TVID
BLK
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
SCL
V SIS
SDA
FH
VLC
LC
H SYNC
TXT BLK
SSCP
STBY
G
CN1435
SCL
SDA
SAT LEVEL
SEMI-STBY
SAT-AFT
CN1426
N/S
SAW
PARA
PROT


CN1132
LED RESP
LED B
LED A
+5V
IC001 INF REC
SIRCS
H 2
(SIRCS INDICATOR RICEVER)
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
RESET Q002
CD001 12MHZ
IC001 MICRO-CONTROLOR
RESET
XTAL2
XTAL1
AGC ATT
B/G D/K
MUTE
PIP/RESET
TV ID
BLK
AFT
CS
N/S
V PULSE
STBY
LC
SAT LVL
HSYNC
SAT AFT
SCL
SAT STBY
SDA
MODE
M3LEN
50/60
PSEN
RXD
TXD
D0
D7
A0
A16
IC002 MEMORY
CE
CN1413 (1/2)
V OFF
IK
V SIS
FH
VLC
H SYNC
TXT BLK
SSCP
ABL
TVID
CN1435
SAT LEVEL
SEMI-STBY
SAT-AFT
CN1426
SAW
PARA
PROT
IC561 GEOMETRIE CONTROLOR
AFC
VTM
VSY
SYS
DIGITAL PART
ANALOG PART
AV1
HIN
SOP
XSOP
PAR
BUFFER Q566
BUFFER Q564,565
N/S SWITCH Q003
IC562 BUFFER
(1/2)
50/60 SW Q561
+5V
RV1851 PULSE WIDTH
QP-
QP+
PULSE DETECTOR Q1841
+12V
15V PULSE
CN1842
E
G
CN1413 (2/2)
VIDEO
H PULSE
TXT BLK
COR
R
G
B
BUFFER Q2005
SWITCH Q2002
SWICTH Q2006
IC2002 TEXT
ICEN
CVBS
BLAN
RESET
SWITCH Q2001
HS
CLK
IC2003 TEXT MEMORY
A9
D3
CAS
WE
RAS
IC2004 SYSTEM-CLOCK
HSP
SC
CLX
SWITCH Q2003, 2008
IC2001 5V REG
+12V
M2(MICRO CONTROL, GEOMETRIE CONTROL,JUNGLE,H.DRIVE)

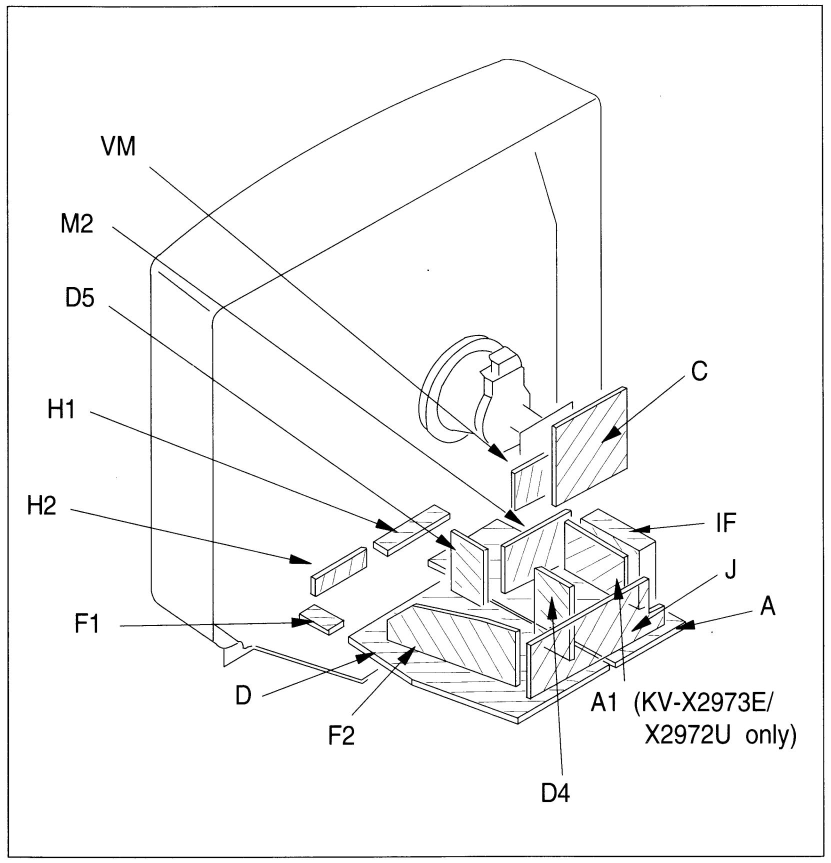
BLOCK DIAGRAM (2)


Spanish, UK model only
CN0201 (1/2)
R IN
L IN
SCL
SDA
SIF
IC1102 (1/2) NICAM DECODER
FMR
FML
SCL
SDA
OPR
DPL
DATA
PCLK
AUDIO AMP-R Q1107
AUDIO AMP-L Q1105
AUDIO OUT-R Q1108
AUDIO OUT-L Q1106
R OUT
L OUT
CN0201 (2/2)
IC1101 NICAM DEMOD
DATA
CLK IN
CKLPF
QPSK IN
CLOCK AMP Q1104
IC1102 (2/2) AUDIO PROCESSOR
X IN
X OUT
X1101 8.192MHz
CF1101
CF1102
SIF BUFFER Q1101
SIF AMP1,2 Q1102,1103
BP1101 BPF
A 1 (AUDIO PROCESSOR)
CN1209
C3 OUT
Y3 OUT
L3 IN
V3 IN
V3 OUT
Y IN
C2 OUT
R2 OUT
L2 IN
V2 IN
V2 OUT
TV L IN
V1 OUT
L1 OUT
B
R
R3 OUT
L3 OUT
R3 IN
MODE 3
C IN
Y2 OUT
L2 OUT
R2 IN
MODE 2
TV R IN
R1 OUT
MODE 1
G
BLK
TV V IN
POFF
J903 R.G.B MULTI
J905 R.G.B MULTI
J (AUDIO/VIDEO I/O,RGB OUT)
CN1210
VARL
VARR
J291
H 1 (Y/C OUT,VIDEO OUT, AUDIO I/O,A/V SWITCH)
S001 MODE
S002 +
S003 −
LC
FR R OUT
FR L OUT
FR V OUT
R
L
VIDEO
CN1008 (2/2)
CN1008 (1/2)
FR C OUT
FR Y OUT
HP L IN
HP R IN
HEAD PHONE
TU101
AGC
IF
RF IN
SCL
SDA
CN0101
IFB101
AGC
BG/DK
VIDEO
TVID
AFT
H.PULSE
MONO
SIF
FM1
FM2
SCL
SDA
LOUT
ROUT
LIN
RIN
AUTO PRESET Q103
AGC ATT
AGC MUTE Q101
TV ID SW Q102
AFT BUFFER Q207
AFT RESET Q203
SCL/SDA
BG/DK
TV ID SW
AFT
IC201 STEREO DECODER SOUND CONTROL
OSC
MONO
HPL
HPR
LOUT
ROUT
SCL
SDA
PILOT
L IN
R IN
SPL
SPR
IC202 HEADPHONE AMP
L IN
R IN
L OUT
R OUT
MUTE Q201,202
IC251,261 AUDIO MAIN AMP
IC251
IC261
IN
OUT
MUTE
SP L OUT
SP R OUT
MUTE Q204-206,209
STANDBY
MUTE
IC601
15.5V
CN0110 (1/2)
CN0108
CN0111
VAR R
VAR L
HP R OUT
HP L OUT
L OUT
R OUT
MUTE
SP R OUT
CN0102
Y IN
C IN
SSCP
VIDEO
IC402 MON/TV SW
TV V2 OUT
TV V OUT
VIDEO
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
B
R
P.OFF
R3 IN
L3 OUT
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TV R OUT
R1 IN
MODE1
G
BLK
TV V OUT
V IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
P.OFF
CN0105
J
H
A


TU101
AGC
RF IN
IF
SCL
SDA
IFB101
BG/DK
VIDEO
TVID
AFT
H.PULSE
MONO
AUTO PRESET Q103
AGC ATT
AGC MUTE Q101
SCL/SDA
TV ID SW Q102
AFT BUFFER Q207
AFT RESET Q203
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
LOUT
ROUT
PILOT
SPL
SPR
L IN
R IN
IC202 HEADPHONE AMP
L OUT
R OUT
MUTE Q201,202
IC251,261 AUDIO MAIN AMP
IC251
IC261
SP L OUT
SP R OUT
MUTE Q204-206,209
STANDBY
IC402 MON/TV SW
TV V2 OUT
TV V OUT
IC601
15.5V
7.5V DET Q610
7.5V
STANDY SWITCH Q611
STANDBY SW Q071
CN0110 (1/2)
CN0108
CN0111
CN0104
VAR R
VAR L
HP R OUT
HP L OUT
L OUT
R OUT
MUTE
SP R OUT
SP L OUT
SW15.5
B
IC401 AUDIO/VIDEO SWITCH
CHROMA
MON2
SCART3
SCART2
SCART1
FRONT IN
MONT
S3
S2
S1
C BUFFER Q401
Y BUFFER Q402
VIDEO BUFFER Q404
VIDEO BUFFER Q403
PAL/NTSC
SECAM
IC301 Y/C PROCESSOR
C IN
Y IN
SSCP
VIDEO
B-Y
R-Y
STD
2FSC
Y OUT
IC302 CHROMA OUT
B-Y OUT
R-Y OUT
PAL/NT SW Q301
2 FSC AMP Q302
SYNC SEP Q501,502
R.G.B
FS1
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
YTIM
V IN
H IN
XRAY
HD
ABL IN
IK IN
V. BLK
CN0101
SIF
FM1
FM2
LIN
RIN
CN0102
J
H
C IN
SSCP
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
P.OFF
R3 IN
L3 OUT
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TV R OUT
R1 IN
MODE1
G
BLK
R
TV V OUT
CN1008 (1/2)
CN5100
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
A
CN0105
FS1 INVERT Q300
G
CN0113
AGC ATT
BGIDK
TV ID SW
SYNC IN
STAND BY
COR
TEXT BLK
H SYNC
MONO
H.PULSE
V.PULSE
IK
ABL
IC072 NVM
IC603 +9V REG
IC604 +9V REG
SW15.5V
REG
+9V
IK DET Q306
IK SWITCH Q311,312
CN0137
YM
CN0106
X RAY
H.DRIVE
H.PUSE
K


IC401 AUDIO/VIDEO SWITCH
SCL
SDA
V
L
R
MON2
SCART3
SCART2
SCART1
FRONT IN
MONT
CHROMA
C BUFFER Q401
Y BUFFER Q402
VIDEO BUFFER Q404
VIDEO BUFFER Q403
SECAM
IC301 Y/C PROCESSOR
C IN
Y IN
SSCP
VIDEO
B-Y
R-Y
STD
2FSC
Y OUT
IC302 CHROMA OUT
B-Y OUT
R-Y OUT
PAL/NT SW Q301
2 FSC AMP Q302
SYNC SEP Q501,502
CN0115(1/2)
SSCP
B-Y OUT
R-Y OUT
Y OUT
V.PULSE
CN0102
PAL/NT
2FSC
Ⓘ
CN0116
V3
SCL
SDA
IC304 R.G.B JUNGLE
SSCP
SCL
SDA
R1 IN
G1 IN
B1 IN
FS1
R
G
B
YM
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
VTIM
V IN
H IN
XRAY
HD
ABL IN
IK IN
V. BLK
R OUT
G OUT
B OUT
B-Y IN
R-Y IN
Y IN
VM OUT
HVCO
CF501
OUT PUT PROTECT Q303,304
Y BUFFER Q313
VM AMP Q309
CN0103
IK
CN0115(1/2)
CN0119
VM OUT
VM MUTE
CN0114
PIP RESET
Ⓖ
CN0113
SCL
SDA
AGC ATT
BGIDK
TV ID SW
AFT
SYNC IN
SSCP
LC
MUTE
STAND BY
TEXT BLK
COR
H SYNC
VLC
FH
V S/S
V OFF
MONO
H.PULSE
V.PULSE
IK
ABL
IC002 NVM
SDA
SCL
IK DET Q306
IK SWITCH Q311,312
CN0137
BLK
YM
R
G
B
CN0106
X RAY
H. DRIVE
H. PUSE
ABL
Ⓚ
A (A/V PROCESSOR,Y/C JUNGLE R.G.B OUTPUT,A/V SWITCH)
CN0403
R
G
B
IK
R.G.B AMP Q710-712
R.G.B OUT Q706,703,705,702,704,701
R.G.B OUT
V901 PICTURE TUBE
IK BUFFER Q713
R.G.B IK DET Q709,708,707
IK DET Q714
+12V
FV
TO FV
CN0421
H1
H2
Ⓒ
C (R.G.B OUT)
CN1830
QP-
QP+
CN1819
VM IN
VM MUTE
AMP1-4 Q1701,1702,1704,1706
VM MUTE SW Q1708
BUFF Q1707
DRIVE SWITCH Q1709
DRIVE Q1703,1705
+12V
QP
QP
VM
NECK ASSY
VM (VM AMP)

5-2. CIRCUIT BOARDS LOCATION


VM
M2
D5
H1
H2
F1
D
F2
D4
C
IF
J
A
A1 (KV-X2973E/ X2972U only)

Reference information		
RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

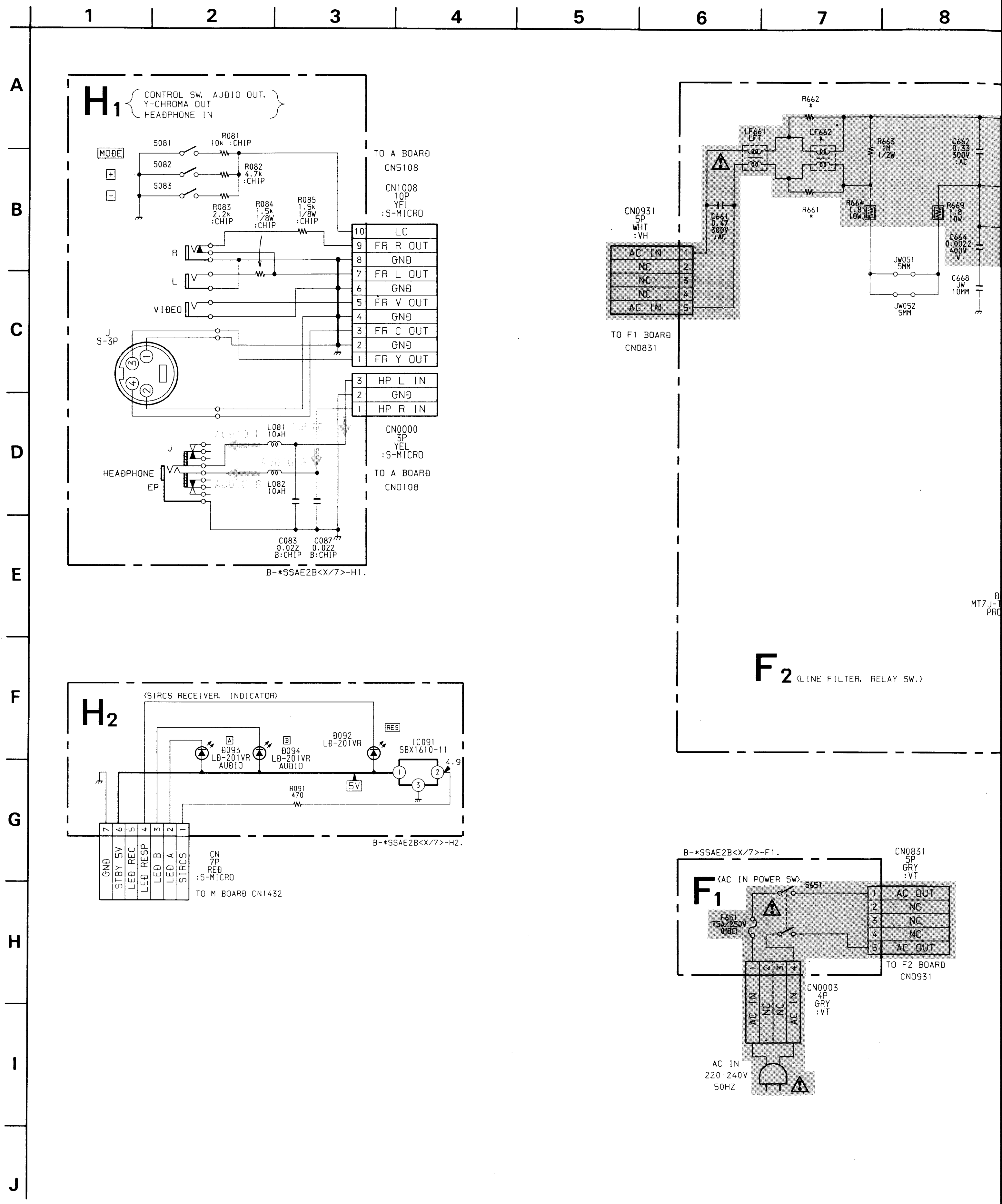
5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

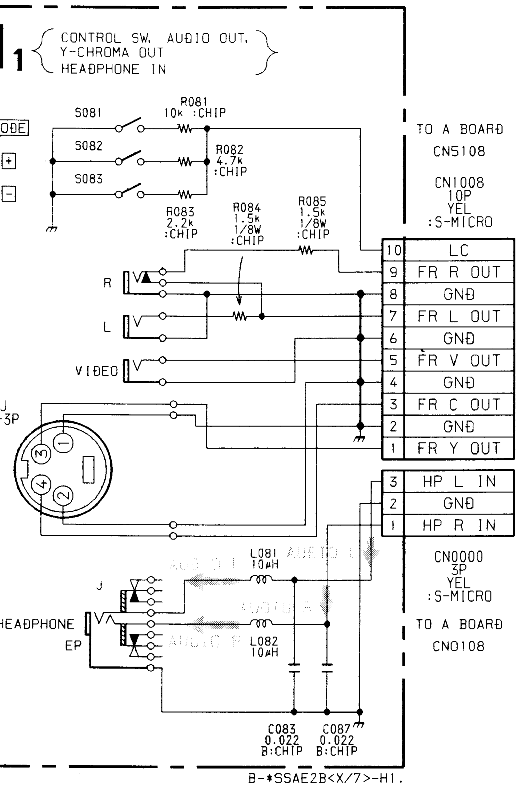
Note :

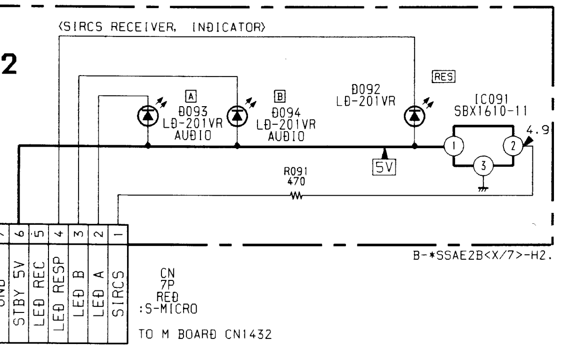
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

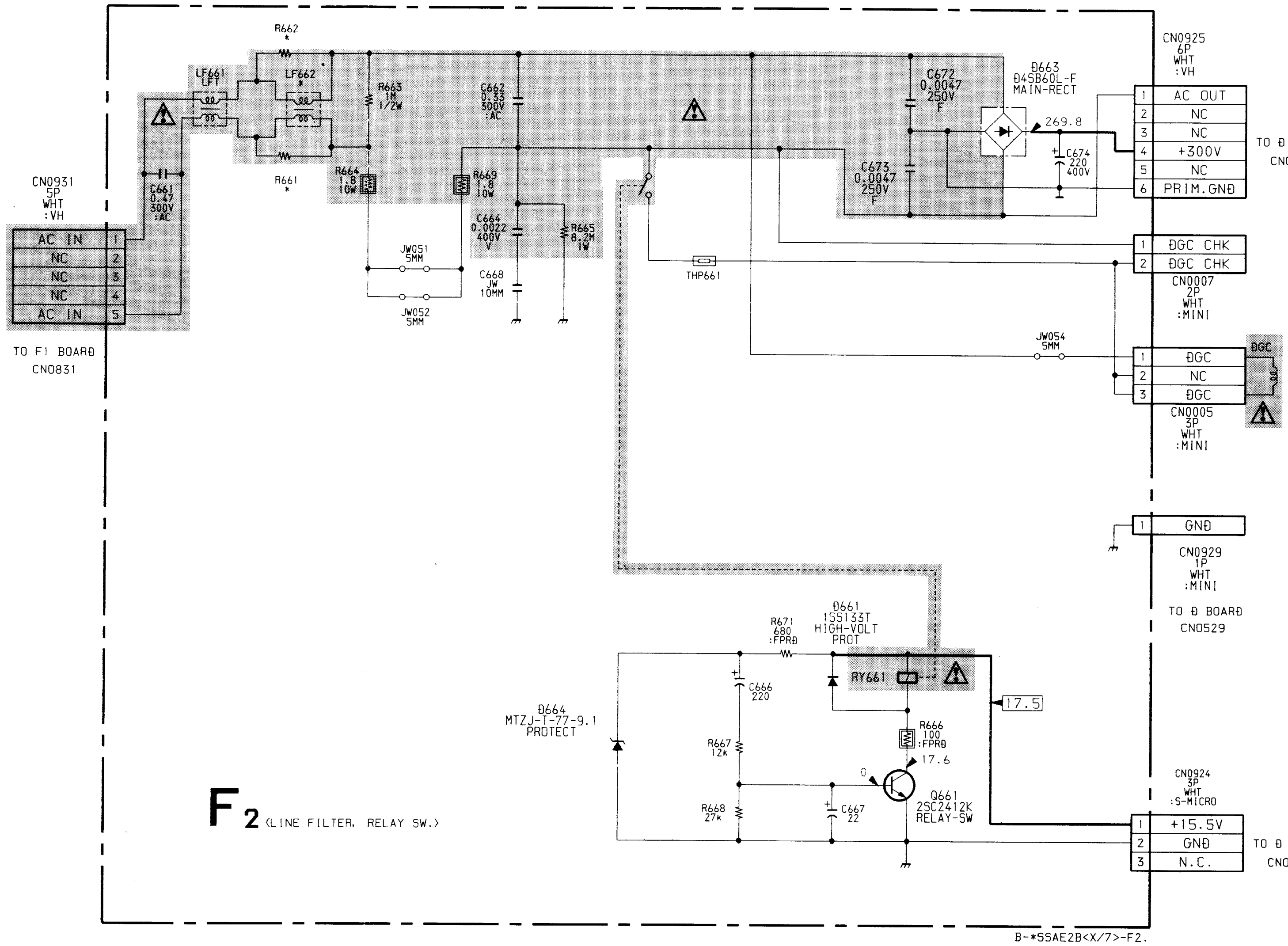
Pitch : 5mm	
Rating electrical power : ¼W	

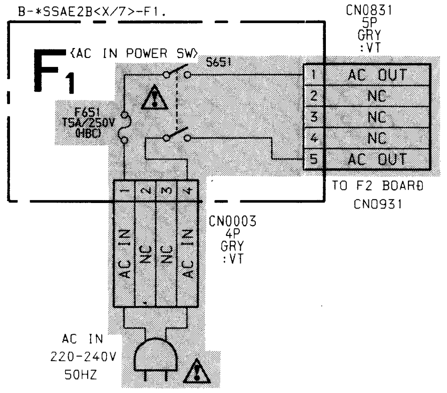
- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000KΩ
- -[W]- : nonflammable resistor.
- -[W~]- : fusible resistor.
- △ : internal component.
- ☐ : panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ▬▬ : B + bus.
- ▬ ▬ : B − bus.
- ⇨ : signal path.(RF)
- ⊥ : earth - ground
- ⊥ : earth - chassis


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
H1 {CONTROL SW, AUDIO OUT, Y-CHROMA OUT HEADPHONE IN}
MODE
+
−
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k 1/8W :CHIP
R085 1.5k 1/8W :CHIP
R
L
VIDEO
J S-3P
J
HEADPHONE EP
L081 10μH
L082 10μH
AUDIO L
AUDIO R
C083 0.022 B:CHIP
C087 0.022 B:CHIP
TO A BOARD CN5108
CN1008 10P YEL :S-MICRO
10 LC
9 FR R OUT
8 GND
7 FR L OUT
6 GND
5 FR V OUT
4 GND
3 FR C OUT
2 GND
1 FR Y OUT
3 HP L IN
2 GND
1 HP R IN
CN0000 3P YEL :S-MICRO
TO A BOARD CN0108
B-*SSAE2B<X/7>-H1.
H2
(SIRCS RECEIVER, INDICATOR)
A
D093 LD-201VR AUDIO
B
D094 LD-201VR AUDIO
D092 LD-201VR
RES
IC091 SBX1610-11
4.9
5V
R091 470
7 GND
6 STBY 5V
5 LED REC
4 LED RESP
3 LED B
2 LED A
1 SIRCS
CN 7P RED :S-MICRO
TO M BOARD CN1432
B-*SSAE2B<X/7>-H2.
R662 *
LF661 LFT
LF662 *
R663 1M 1/2W
C662 0.33 300V :AC
R661 *
R664 1.8 10W
R669 1.8 10W
C661 0.47 300V :AC
C664 0.0022 400V V
C668 JW 10MM
JW051 5MM
JW052 5MM
CN0931 5P WHT :VH
1 AC IN
2 NC
3 NC
4 NC
5 AC IN
TO F1 BOARD CN0831
MTZJ-
F2 (LINE FILTER, RELAY SW.)
B-*SSAE2B<X/7>-F1.
F1 (AC IN POWER SW)
S651
F651 T5A/250V (HBC)
CN0831 5P GRY :VT
1 AC OUT
2 NC
3 NC
4 NC
5 AC OUT
TO F2 BOARD CN0931
1 AC IN
2 NC
3 NC
4 AC IN
CN0003 4P GRY :VT
AC IN 220-240V 50HZ


H1 (CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONE IN)
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k 1/8W :CHIP
R085 1.5k 1/8W :CHIP
TO A BOARD CN5108
CN1008 10P YEL :S-MICRO
10 LC
9 FR R OUT
8 GND
7 FR L OUT
6 GND
5 FR V OUT
4 GND
3 FR C OUT
2 GND
1 FR Y OUT
R
L
VIDEO
3 HP L IN
2 GND
1 HP R IN
CN0000 3P YEL :S-MICRO
TO A BOARD CN0108
L081 10μH
L082 10μH
HEADPHONE
EP
C083 0.022 B:CHIP
C087 0.022 B:CHIP
B-*SSAE2B<X/7>-H1.


2
(SIRCS RECEIVER, INDICATOR)
D093 LED-201VR AUDIO
D094 LED-201VR AUDIO
D092 LED-201VR
RES
IC091 SBX1610-11
4.9
5V
R091 470
B-*SSAE2B<X/7>-H2.
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN 7P RED :S-MICRO
TO M BOARD CN1432


R662
LF661 LFT
LF662
R663 1M 1/2W
C662 0.33 300V :AC
C672 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
269.8
C674 220 400V
C673 0.0047 250V F
CN0925 6P WHT :VH
1 AC OUT
2 NC
3 NC
4 +300V
5 NC
6 PRIM.GND
TO D BOARD CN0525
CN0931 5P WHT :VH
1 AC IN
2 NC
3 NC
4 NC
5 AC IN
TO F1 BOARD CN0831
C661 0.47 300V :AC
R661
R664 1.8 10W
R669 1.8 10W
C664 0.0022 400V
R665 8.2M 1W
JW051 5MM
JW052 5MM
C668 JW 10MM
THP661
1 DGC CHK
2 DGC CHK
CN0007 2P WHT :MINI
JW054 5MM
1 DGC
2 NC
3 DGC
CN0005 3P WHT :MINI
DGC
1 GND
CN0929 1P WHT :MINI
TO D BOARD CN0529
R671 680 :FPRD
D661 1SS133T HIGH-VOLT PROT
RY661
17.5
C666 220
D664 MTZJ-T-77-9.1 PROTECT
R666 100 :FPRD
17.6
R667 12k
0
Q661 2SC2412K RELAY-SW
R668 27k
C667 22
CN0924 3P WHT :S-MICRO
1 +15.5V
2 GND
3 N.C.
TO D BOARD CN0524
F2 (LINE FILTER, RELAY SW.)
B-*SSAE2B<X/7>-F2.

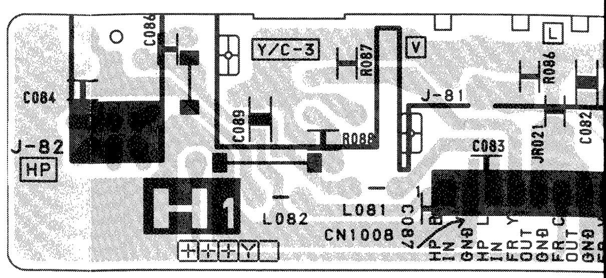

B-*SSAE2B<X/7>-F1.
CN0831 5P GRY :VT
F1 (AC IN POWER SW)
S651
F651 T5A/250V (HBC)
1 AC OUT
2 NC
3 NC
4 NC
5 AC OUT
TO F2 BOARD CN0931
AC IN
NC
NC
AC IN
CN0003 4P GRY :VT
AC IN 220-240V 50HZ

F2 BOARD * MARK

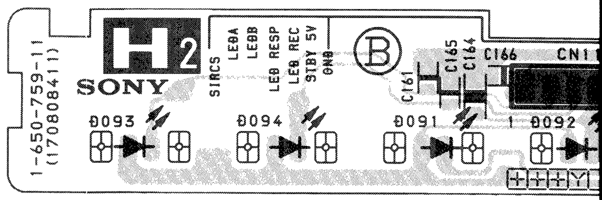
Model	KV-X2971A	KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
R661	-	JW 10MM	-	-	JW 10MM	JW 10MM
R662	-	JW 10MM	-	-	JW 10MM	JW 10MM
LF662	LFT	-	LFT	LFT	-	-

H1 [CONTROL SW, AUDIO OUT Y-CHROMA OUT, HEADPHONE]

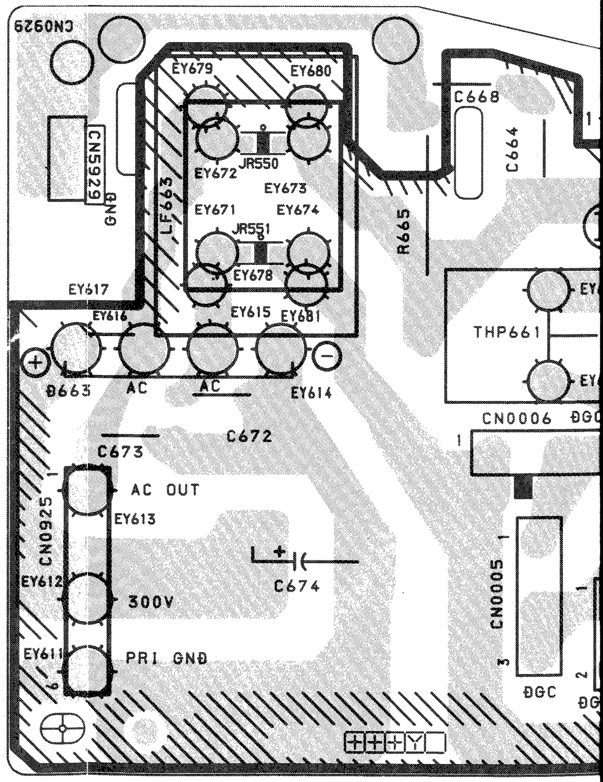
- H1 BOARD -

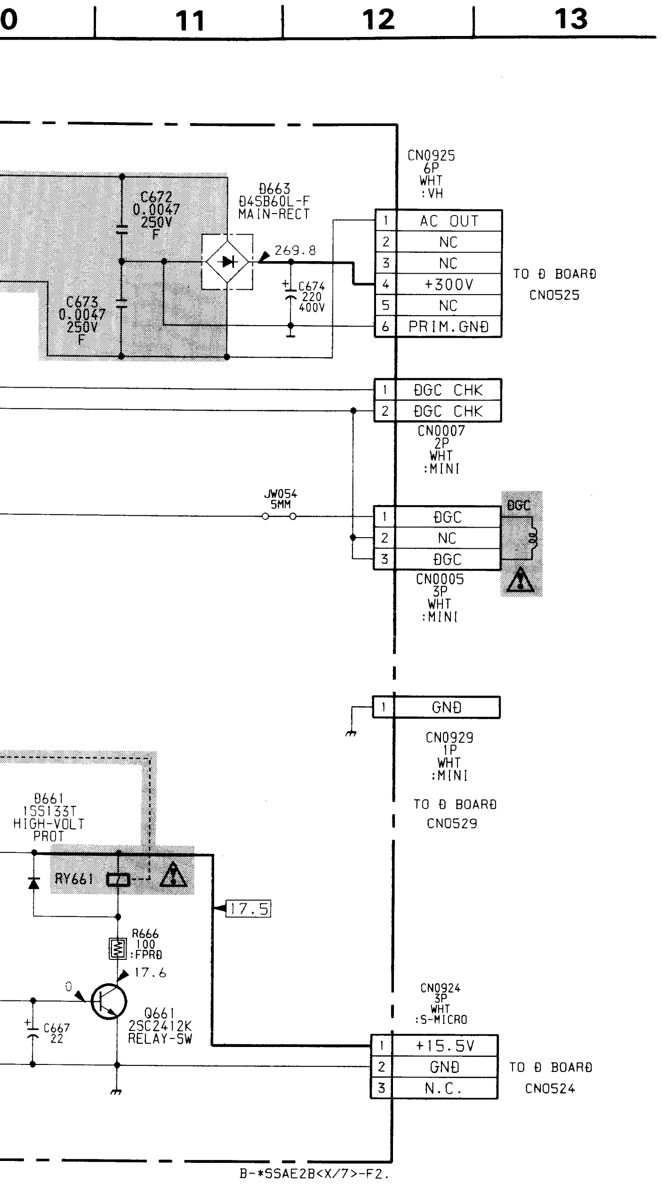

C086
Y/C-3
R087
V
L
R086
C084
J-81
C082
J-82
HP
C089
R088
C083
JR021
H1
L082
L081
CN1008
C087

- H2 BOARD -


H2
SONY
1-650-759-11 (17080841 1)
SIRCS
LED A
LED B
LED REC
LED RESP
STBY 5V
GND
B
C161
C165
C164
C166
D093
D094
D091
D092

- F2 BOARD -

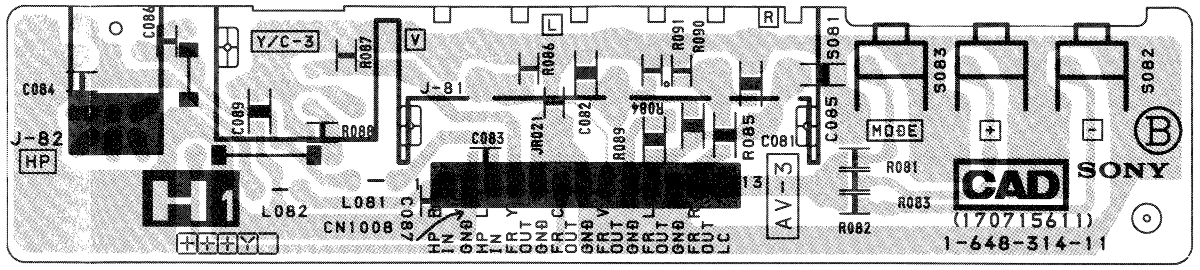

CN0929
EY679
EY680
C668
CN5929
GND
LF663
EY672
JR550
EY673
EY671
EY674
JR551
EY678
R665
C664
EY617
EY616
EY615
EY681
THP661
D663
AC
AC
EY614
C673
C672
CN0006
AC OUT
EY613
CN0925
EY612
300V
C674
CN0005
EY611
PRI GND
DGC


0
11
12
13
CN0925
6P
WHT
:VH
C672
0.0047
250V
F
D663
D4SB60L-F
MAIN-RECT
269.8
C674
220
400V
C673
0.0047
250V
F
1 AC OUT
2 NC
3 NC
4 +300V
5 NC
6 PRIM.GND
TO D BOARD
CN0525
1 DGC CHK
2 DGC CHK
CN0007
2P
WHT
:MINI
JW054
5MM
1 DGC
2 NC
3 DGC
DGC
CN0005
3P
WHT
:MINI
1 GND
CN0929
1P
WHT
:MINI
TO D BOARD
CN0529
D661
1SS133T
HIGH-VOLT
PROT
RY661
17.5
R666
100
:FPRD
17.6
0
Q661
2SC2412K
RELAY-SW
C667
22
CN0924
3P
WHT
:S-MICRO
1 +15.5V
2 GND
3 N.C.
TO D BOARD
CN0524
B-*SSAE2B<X/7>-F2.

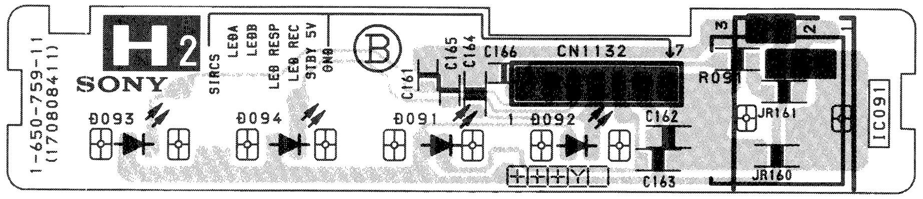
KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
JW 10MM	-	-	JW 10MM	JW 10MM
JW 10MM	-	-	JW 10MM	JW 10MM
-	LFT	LFT	-	-

H1 [CONTROL SW, AUDIO OUT Y - CHROMA OUT, HEADPHONE] **H2** [SIRCS RECEIVE INDICATOR] **F2** [LINE FILTER, RELAY SW] **F1** [AC IN POWER SW]

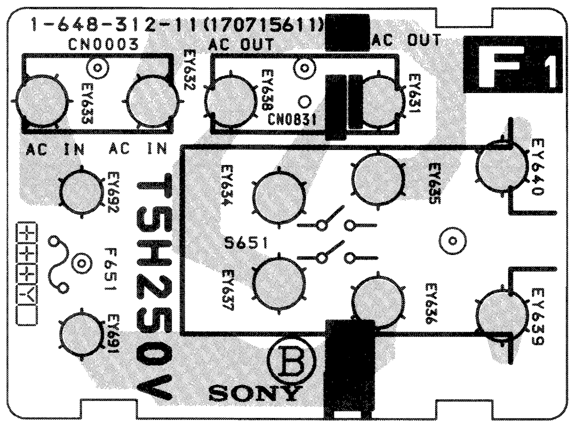
- H1 BOARD -


H1
SONY
CAD
(170715611)
1-648-314-11
CN1008
J-81
J-82
HP
Y/C-3
V
L
R
MODE
+
-
AV-3
S081
S082
S083
C081
C082
C083
C084
C085
C086
C087
C089
R081
R082
R083
R084
R085
R086
R087
R088
R089
R090
R091
JR021
L081
L082
HP IN
GND
HP
HP IN
FR
Y OUT
GND
FR C OUT
GND
FR V OUT
GND
FR
L OUT
GND
FR
R OUT
LC

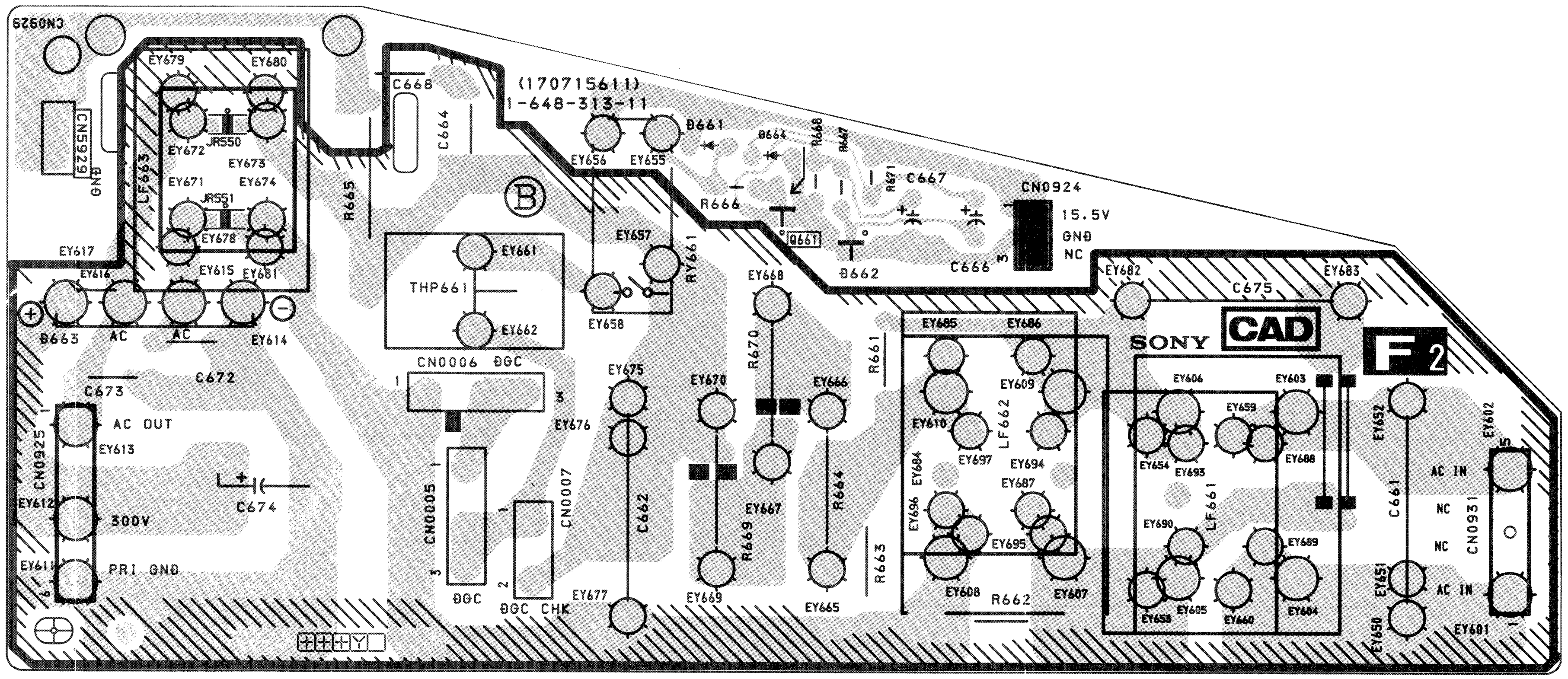
- H2 BOARD -

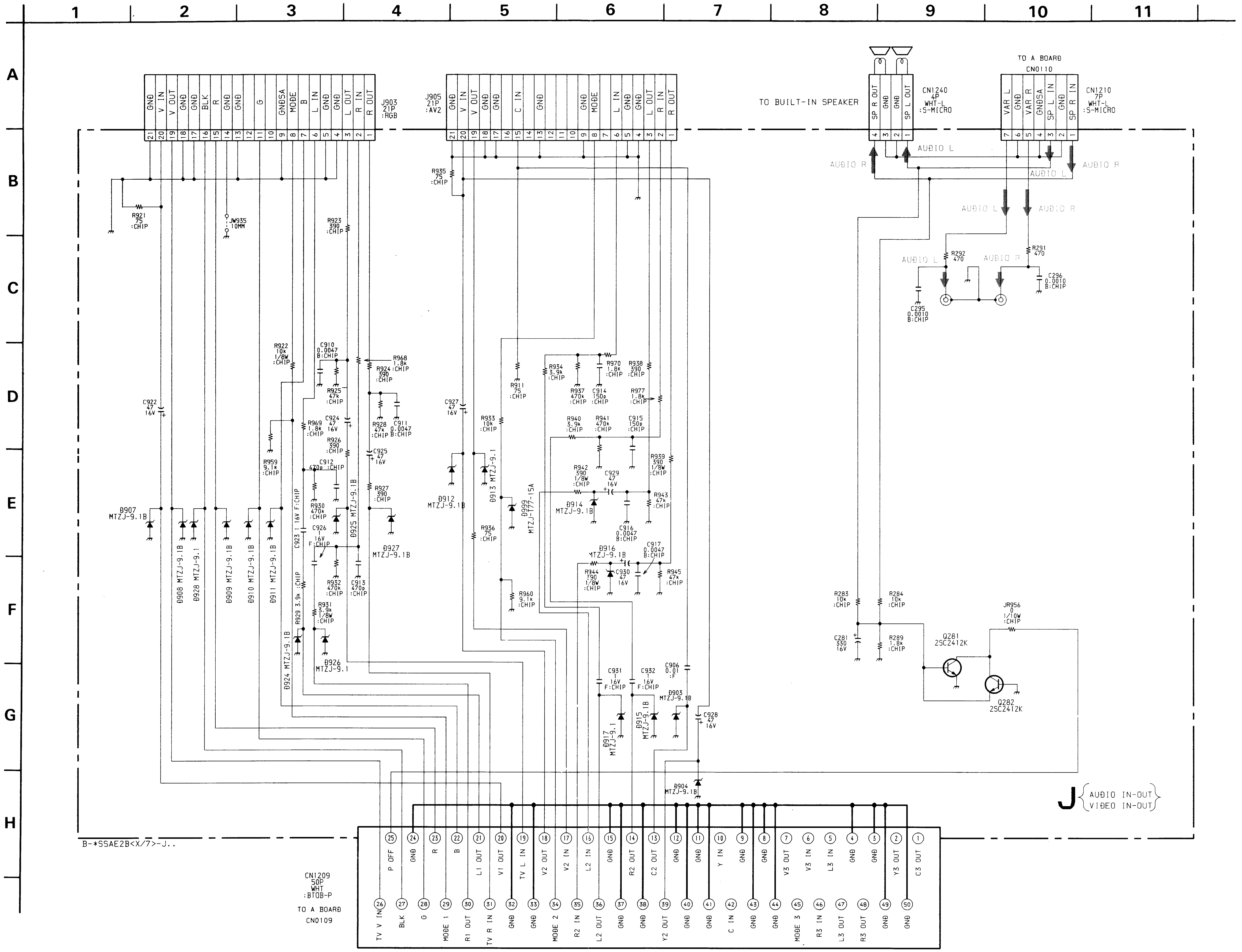

H2
SONY
1-650-759-11
(170808411)
SIRCS
LEDA
LEDB
LED RESP
LED REC
STBY 5V
GND
CN1132
C161
C162
C163
C164
C165
C166
D091
D092
D093
D094
R091
JR160
JR161
IC091

- F1 BOARD -


1-648-312-11(170715611)
CN0003
AC OUT
CN0831
AC IN
AC IN
F1
T5H250V
S651
F651
SONY
EY631
EY632
EY633
EY634
EY635
EY636
EY637
EY638
EY639
EY640
EY691
EY692

- F2 BOARD -

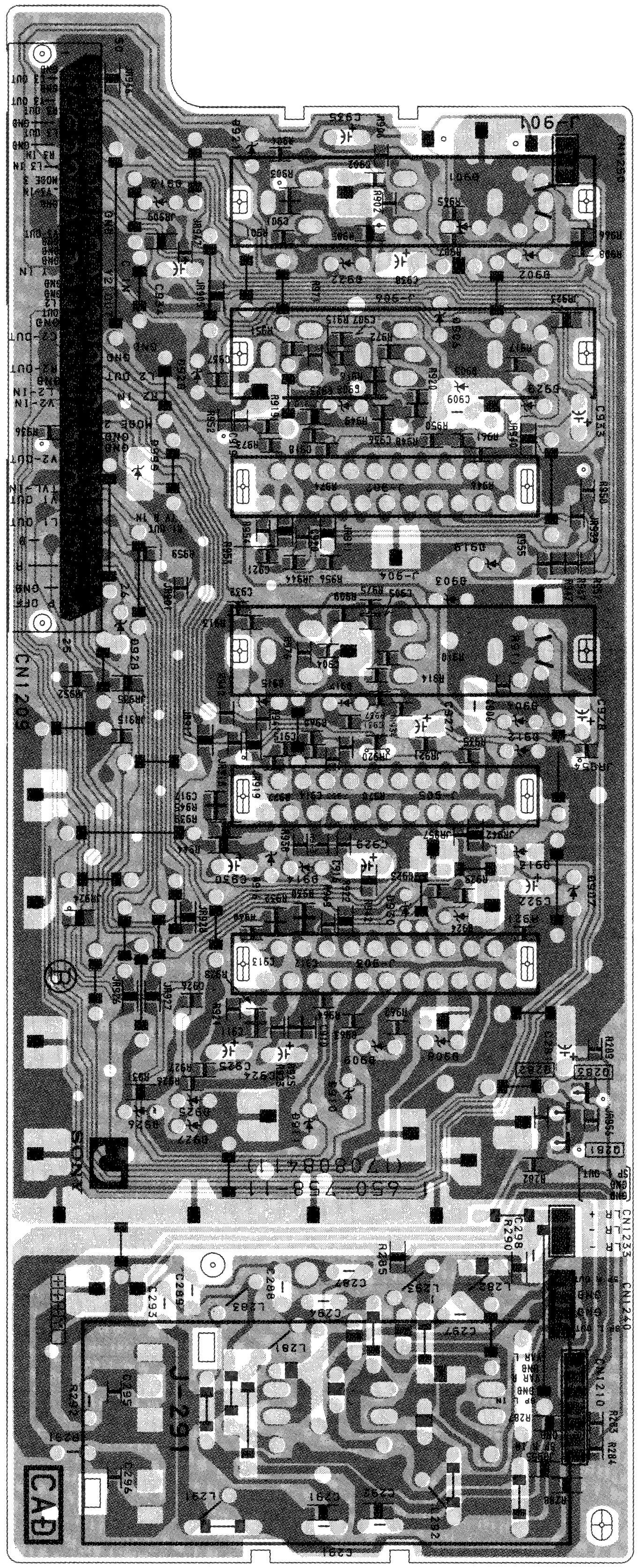

CN0929
(170715611)
1-648-313-11
CN5929
GND
LF663
C668
C664
R665
JR550
JR551
D661
D664
R668
R667
R671
C667
R666
CN0924
15.5V
GND
NC
Q661
D662
C666
RY661
THP661
EY661
EY662
CN0006 DGC
AC
AC
D663
C673
C672
AC OUT
300V
PRI GND
C674
CN0925
CN0005
CN0007
DGC
DGC CHK
C662
R670
R669
R664
R661
R663
LF662
LF661
R662
C675
C661
SONY
CAD
F2
AC IN
NC
NC
AC IN
CN0931
EY601
EY602
EY603
EY604
EY605
EY606
EY607
EY608
EY609
EY610
EY611
EY612
EY613
EY614
EY615
EY616
EY617
EY650
EY651
EY652
EY653
EY654
EY655
EY656
EY657
EY658
EY659
EY660
EY665
EY666
EY667
EY668
EY669
EY670
EY671
EY672
EY673
EY674
EY675
EY676
EY677
EY678
EY679
EY680
EY681
EY682
EY683
EY684
EY685
EY686
EY687
EY688
EY689
EY690
EY693
EY694
EY695
EY696
EY697

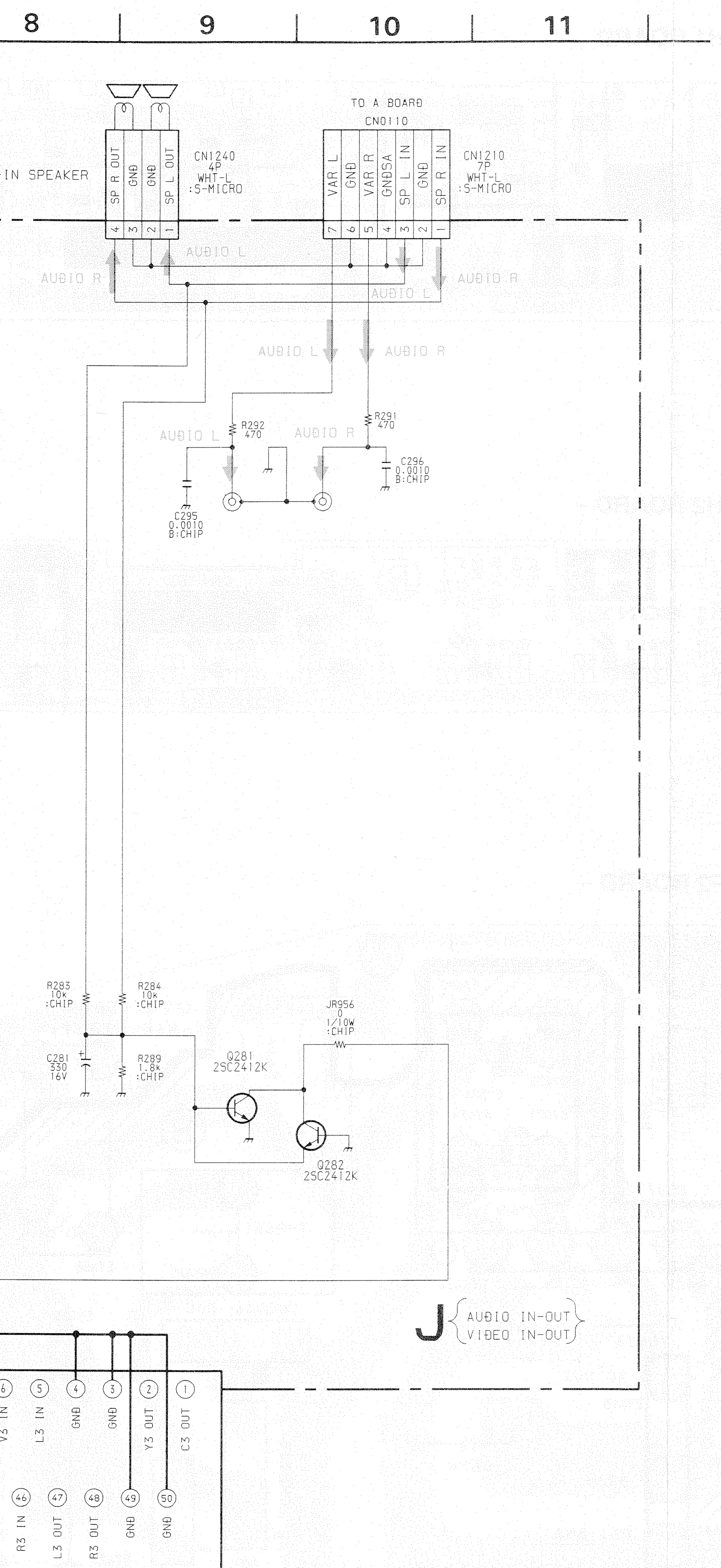

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
J903
21P
:RGB
J905
21P
:AV2
TO BUILT-IN SPEAKER
CN1240
4P
WHT-L
:S-MICRO
TO A BOARD
CN0110
CN1210
7P
WHT-L
:S-MICRO
AUDIO L
AUDIO R
Q281
2SC2412K
Q282
2SC2412K
CN1209
50P
WHT
:BTOB-P
TO A BOARD
CN0109
B-*SSAE2B<X/7>-J..
J {AUDIO IN-OUT
VIDEO IN-OUT}

Note :

- ▨ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

– J BOARD –


CN1209
CN1235
CN1240
CN1210
J-291
CA-D

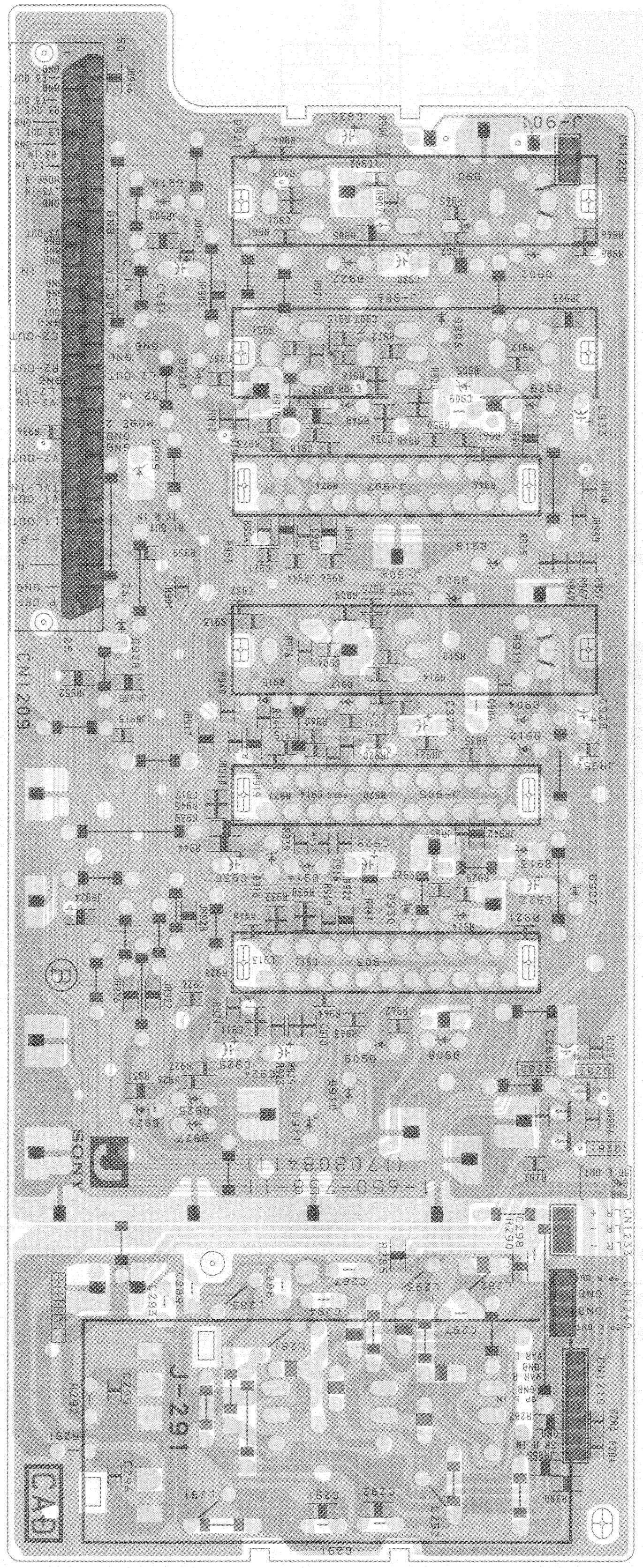

8
9
10
11
IN SPEAKER
SP R OUT
GND
GND
SP L OUT
CN1240 4P WHT-L :S-MICRO
TO A BOARD CN0110
VAR L
GND
VAR R
GNDSA
SP L IN
GND
SP R IN
CN1210 7P WHT-L :S-MICRO
AUDIO R
AUDIO L
AUDIO L
AUDIO R
R292 470
R291 470
C296 0.001 B:CHIP
C295 0.001 B:CHIP
R283 10k :CHIP
R284 10k :CHIP
JR956 1/10W :CHIP
C281 330 16V
R289 1.8k :CHIP
Q281 2SC2412K
Q282 2SC2412K
J {AUDIO IN-OUT VIDEO IN-OUT}
L3 IN
GND
GND
Y3 OUT
C3 OUT
R3 IN
L3 OUT
R3 OUT
GND
GND

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

J [AUDIO IN/OUT VIDEO IN/OUT] A [TUNER, AUDIO, CONTROL, AUDIO AMP, AV SW, R.G.B JUNGLE, Y/C PROCESSOR]

– J BOARD –

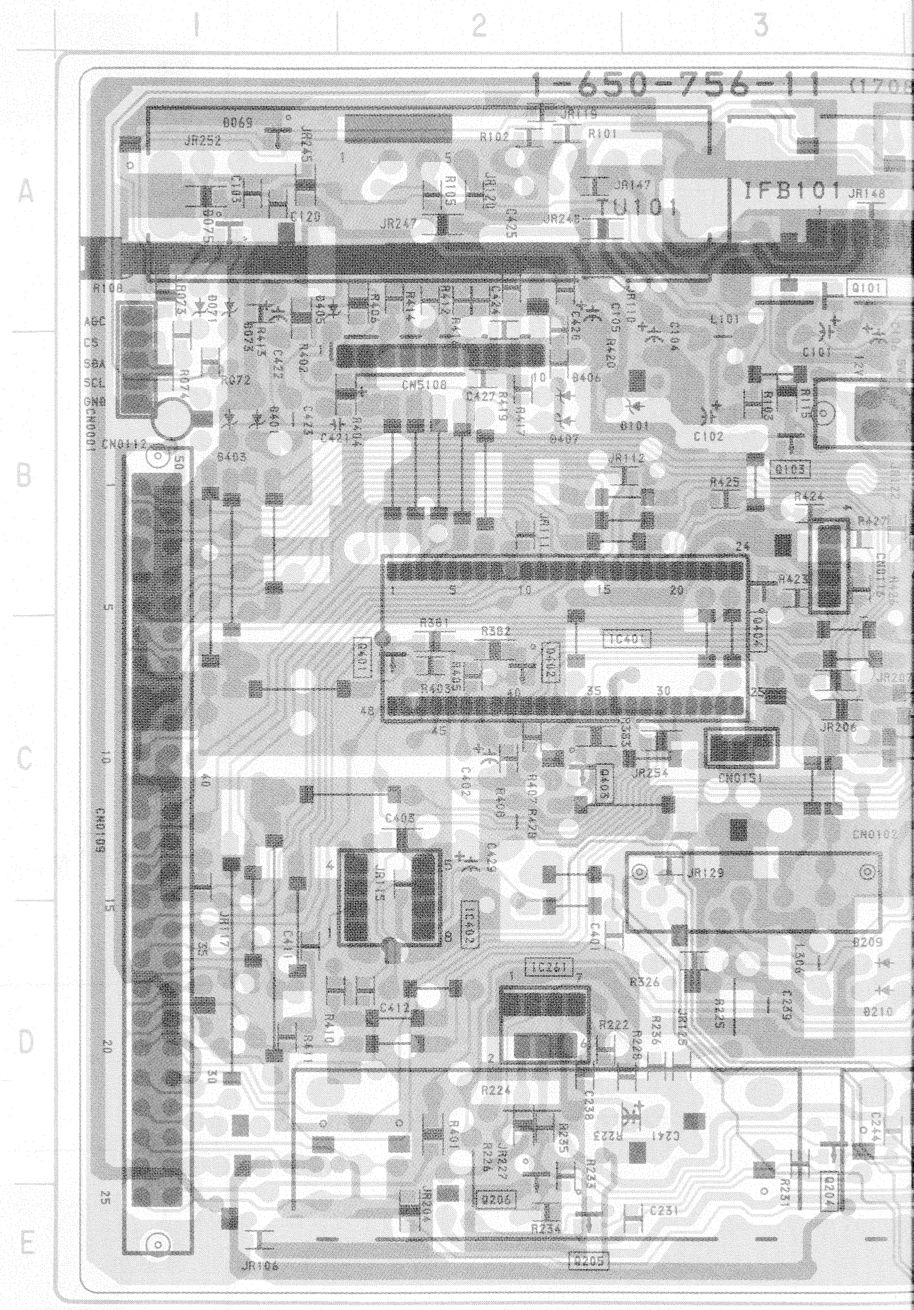

CN1209
CN1250
J-901
J-902
J-903
J-904
J-905
J-906
J-907
SONY
CN1240
CN1210
J-291
CAD

IC	
IC072	B – 6
IC201	C – 6
IC202	C – 4
IC251	D – 4
IC261	D – 2
IC301	A – 8
IC302	A – 10
IC304	C – 10
IC401	C – 2
IC402	D – 2
IC681	D – 9
IC684	C – 4
IC685	E – 8

TRANSISTOR	
Q071	D – 8
Q101	A – 3
Q102	A – 7
Q103	A – 3
Q201	D – 5
Q202	D – 5
Q203	A – 4
Q204	D – 3
Q205	E – 2
Q206	D – 2
Q207	B – 6
Q209	E – 7
Q210	A – 6
Q301	A – 7
Q302	B – 7
Q303	D – 10
Q304	D – 10
Q305	A – 8
Q306	D – 10
Q308	C – 9
Q309	C – 9
Q311	C – 8
Q312	C – 8
Q313	B – 8
Q314	C – 7
Q315	D – 7
Q401	C – 2
Q402	C – 2
Q403	C – 2
Q404	B – 3
Q581	B – 9
Q582	B – 9
Q610	E – 9
Q681	E – 7
Q682	D – 9

DIODE	
D068	B – 7
D069	A – 1
D071	A – 1
D073	A – 1
D075	A – 1
D077	B – 7
D078	B – 7
D079	B – 7
D101	B – 2
D206	D – 7
D207	E – 7
D208	D – 7
D209	D – 3
D210	D – 3
D211	E – 5
D212	E – 4
D213	D – 5
D214	C – 6
D301	B – 9
D302	A – 9
D304	B – 10
D305	C – 9
D306	D – 10
D307	D – 10
D308	D – 10
D311	C – 9
D312	C – 8
D313	C – 7
D381	C – 8
D401	B – 1
D403	B – 1
D405	A – 1
D406	B – 2
D407	B – 2
D571	B – 9
D681	E – 8
D683	D – 9

– A BOARD –

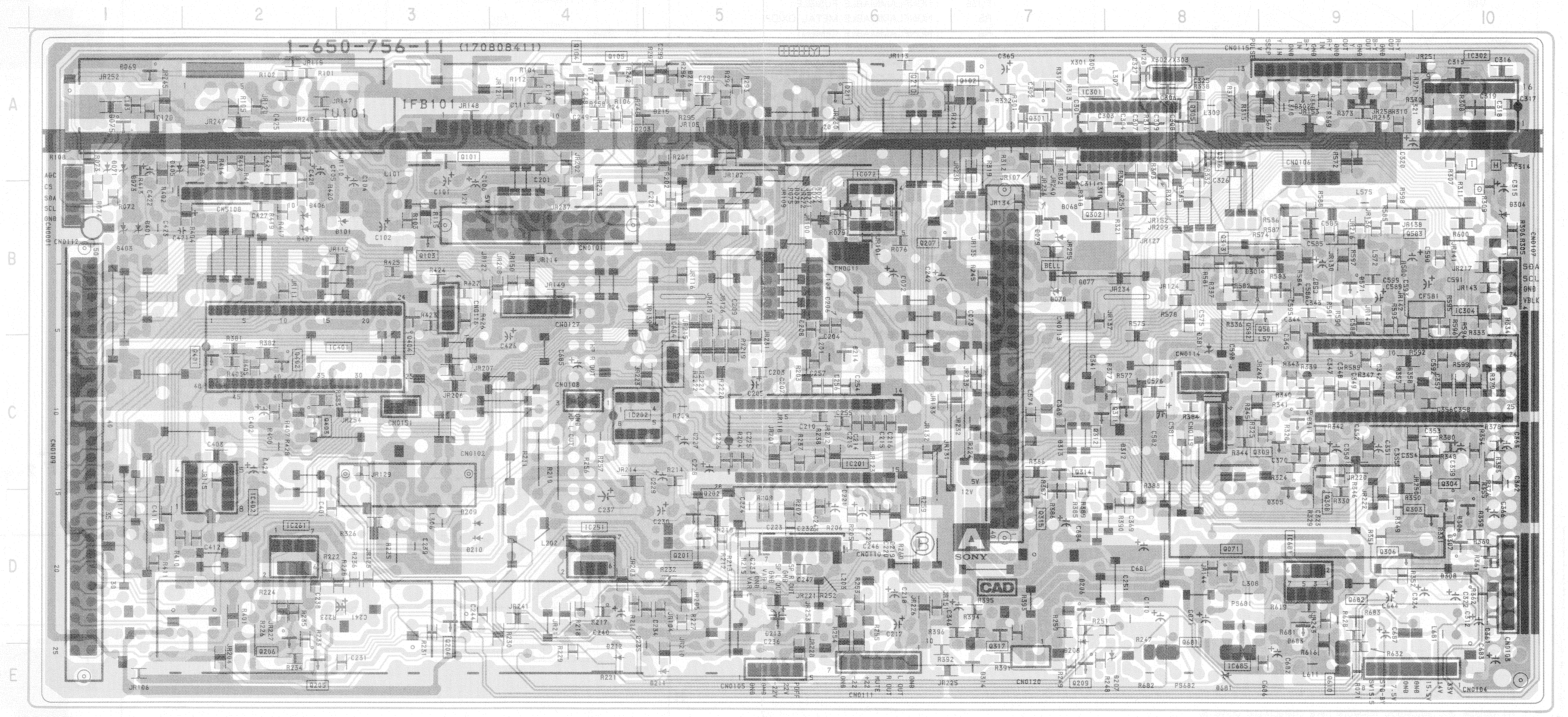

1
2
3
A
B
C
D
E
1-650-756-11
IFB101
TU101
CN0110
CN0151
CN5108
IC401
IC402
IC261

04	B − 3
31	B − 9
32	B − 9
0	E − 9
31	E − 7
32	D − 9

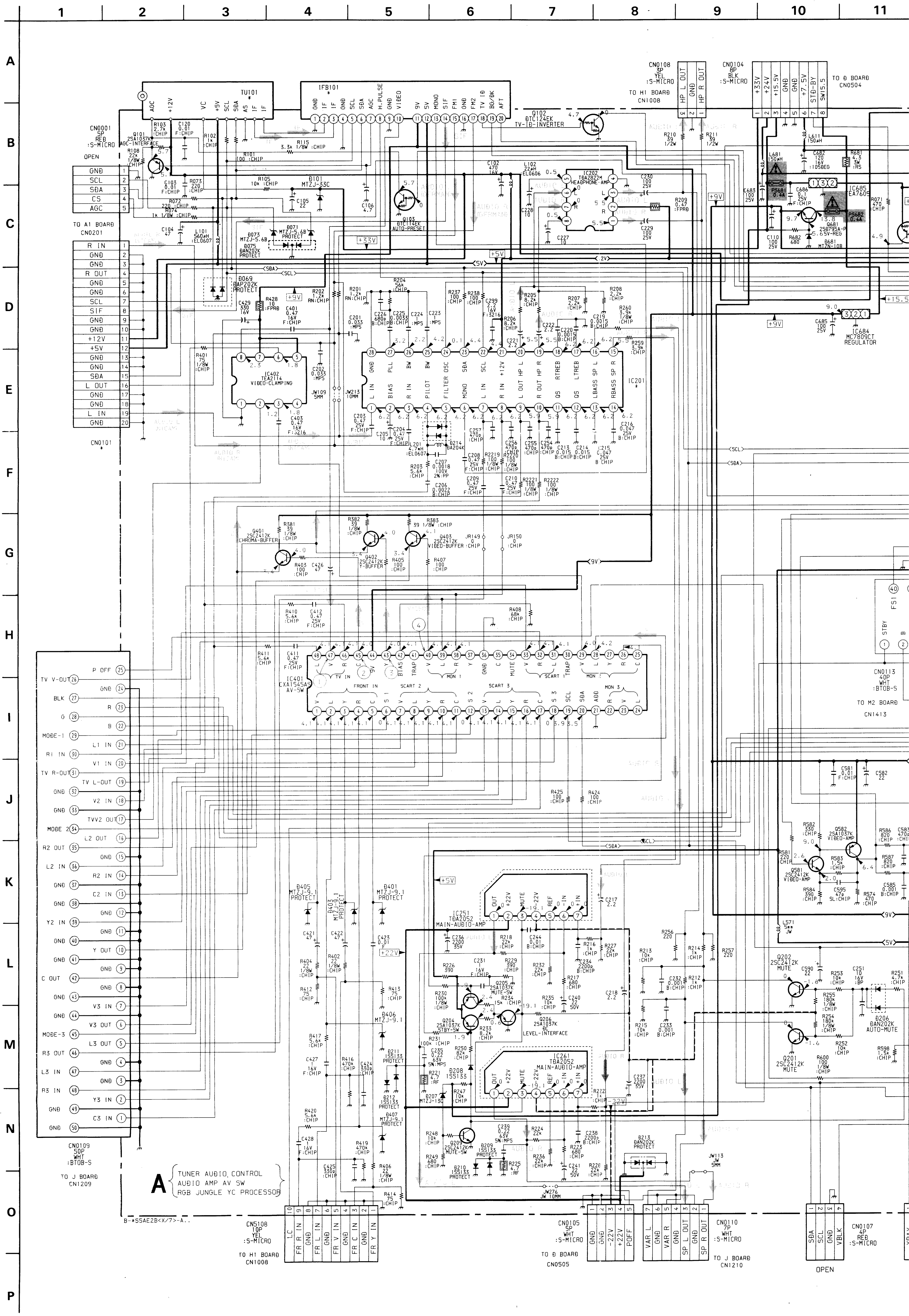
DIODE

8	B − 7
9	A − 1
1	A − 1
3	A − 1
5	A − 1
7	B − 7
8	B − 7
9	B − 7
1	B − 2
6	D − 7
7	E − 7
8	D − 7
9	D − 3
0	D − 3
1	E − 5
2	E − 4
3	D − 5
4	C − 6
1	B − 9
2	A − 9
4	B − 10
5	C − 9
6	D − 10
7	D − 10
8	D − 10
1	C − 9
2	C − 8
3	C − 7
1	C − 8
1	B − 1
3	B − 1
5	A − 1
6	B − 2
7	B − 2
1	B − 9
1	E − 8
3	D − 9

– A BOARD –


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
1-650-756-11 (170808411)
TU101
IFB101
IC401
IC402
IC201
IC202
IC251
IC261
IC301
IC302
IC304
IC681
IC685
CN0101
CN0102
CN0103
CN0104
CN0105
CN0106
CN0111
CN0112
CN0115
CN0120
A
SONY
CAD

Note :
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.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M
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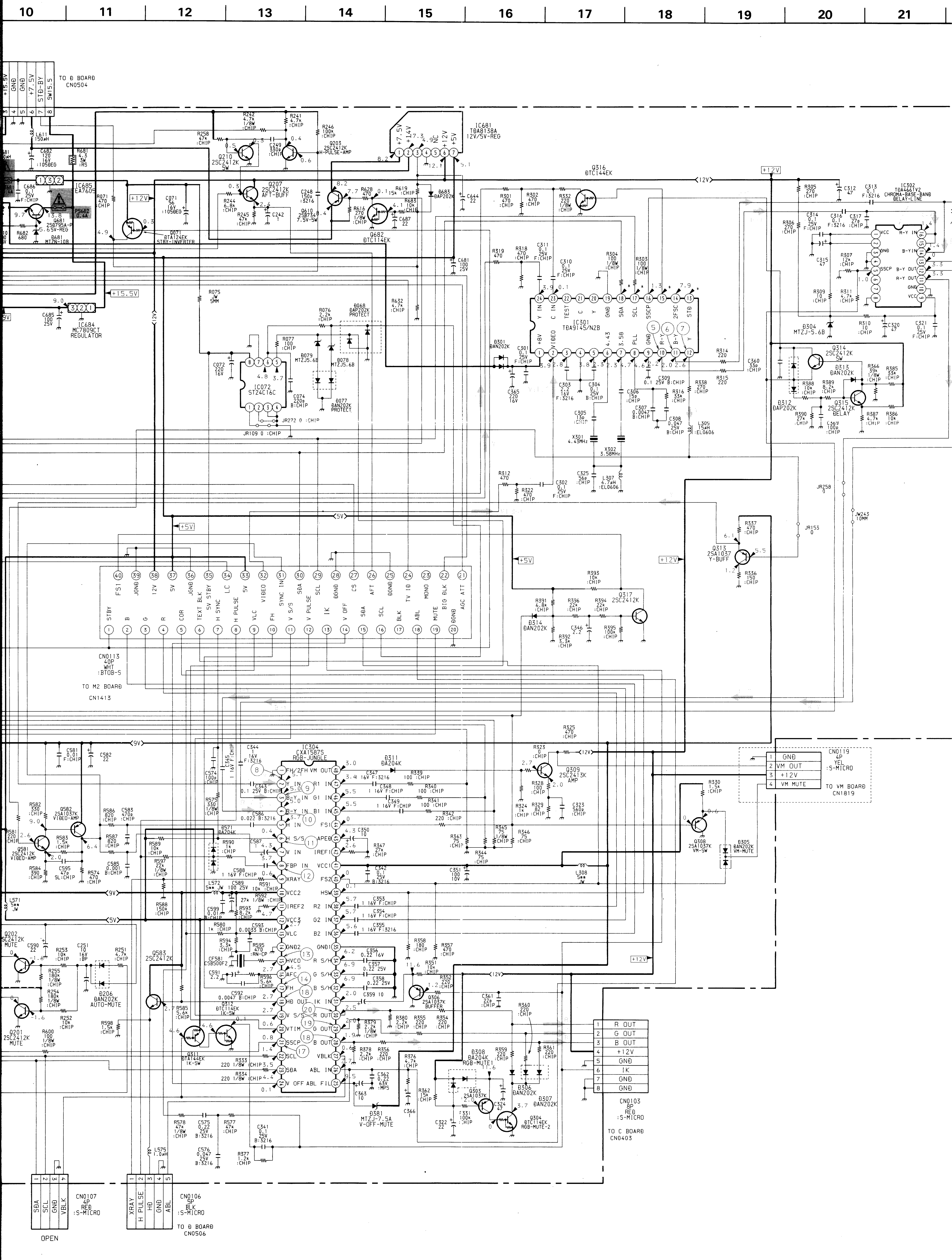
O
P
TU101 *
AGC
+12V
VC
+5V
SCL
SDA
AS
IF
IF
IFB101 *
GND
IF
IF
GND
SCL
SDA
AGC
H.PULSE
GND
VIDEO
9V
5V
MONO
SIF
FM1
GND
FM2
TV ID
BG/DK
AFT
Q102 DTC124EK TV-ID-INVERTER
CN0001 5P RED :S-MICRO
OPEN
GND
SCL
SDA
CS
AGC
TO A1 BOARD CN0201
Q101 2SA1037K AGC-INTERFACE
D101 MTZJ-33C
D071 MTZJ-5.6B PROTECT
D073 MTZJ-5.6B
D075 DAN202K PROTECT
Q103 DTC114EK AUTO-PRESET
IC202 TDA2822M HEADPHONE-AMP
CN0108 3P YEL :S-MICRO
TO H1 BOARD CN1008
HP L OUT
GND
HP R OUT
CN0104 8P BLK :S-MICRO
+33V
+24V
+15.5V
GND
GND
+7.5V
STD-BY
SW15.5
TO D BOARD CN0504
IC685 TEA7605
Q681 2SB795A-P 5.6V-REG
D681 MTZN-10B
IC684 MC7809CT REGULATOR
R IN
GND
GND
R OUT
GND
GND
SCL
SIF
GND
GND
+12V
+5V
GND
GND
SDA
L OUT
GND
GND
L IN
GND
CN0101 *
D069 DAP202K PROTECT
IC402 TEA2114 VIDEO-CLAMPING
IC201 *
GND
PLL
BW
BW
FILTER OSC
SDA
SCL
+12V
L OUT HP L
R OUT HP R
RTREB
LTREB
LBASS SP L
RBASS SP R
L IN
BIAS
R IN
PILOT
FILTER OSC
MONO
L IN
+12V
L OUT
R OUT
QS
QS
D214 DA204K
Q401 2SC2412K CHROMA-BUFFER
Q402 2SC2412K Y-BUFFER
Q403 2SC2412K VIDEO-BUFFER
IC401 CXA1545AS AV-SW
TV IN
FRONT IN
SCART 2
SCART 3
MON 1
SCART 1
MON 2
MON 3
TRAP
BIAS
GND
MUTE
SCL
SDA
ADD
CN0113 40P WHT :BTOB-S
TO M2 BOARD CN1413
STBY
P OFF
TV V-OUT
GND
BLK
R
G
B
MODE-1
L1 IN
R1 IN
V1 IN
TV R-OUT
TV L-OUT
GND
V2 IN
GND
TVV2 OUT
MODE 2
L2 OUT
R2 OUT
GND
L2 IN
R2 IN
GND
C2 IN
GND
GND
Y2 IN
GND
GND
Y OUT
GND
GND
C OUT
GND
GND
V3 IN
GND
V3 OUT
MODE-3
L3 OUT
R3 OUT
GND
L3 IN
GND
R3 IN
Y3 IN
GND
C3 IN
GND
CN0109 50P WHT :BTOB-S
TO J BOARD CN1209
D405 MTZJ-9.1 PROTECT
D403 MTZJ-9.1 PROTECT
D401 MTZJ-9.1 PROTECT
D406 MTZJ-9.1
D407 MTZJ-9.1 PROTECT
D211 1SS133 PROTECT
D212 1SS133 PROTECT
IC251 TDA2052 MAIN-AUDIO-AMP
IC261 TDA2052 MAIN-AUDIO-AMP
OUT
+22V
MUTE
-22V
REF
IN
Q205 2SA1037K MUTE-SW
Q204 2SA1037K STBY-SW
Q206 2SA1037K DC LEVEL-INTERFACE
D208 1SS133
D207 MTZJ-13C
Q209 2SC2412K MUTE-SW
D209 1SS133 PROTECT
D210 1SS133 PROTECT
D213 DAN202K PROTECT
JW276 JW 10MM
JW113 JW 5MM
Q582 2SA1037K VIDEO-AMP
Q581 2SC2412K VIDEO-AMP
L571 5mm JW
Q202 2SC2412K MUTE
Q201 2SC2412K MUTE
D206 DAN202K AUTO-MUTE
CN5108 10P YEL :S-MICRO
TO H1 BOARD CN1008
LC
FR R IN
GND
FR L IN
GND
FR V IN
GND
FR C IN
GND
FR Y IN
CN0105 5P WHT :S-MICRO
TO D BOARD CN0505
GND
GND
-22V
+22V
POFF
CN0110 7P WHT :S-MICRO
TO J BOARD CN1210
VAR L
GND
VAR R
GND
SP L OUT
GND
SP R OUT
CN0107 4P RED :S-MICRO
OPEN
SDA
SCL
GND
VBLK
<SDA>
<SCL>
<5V>
<2V>
<9V>
+5V
+9V
+33V
+22V
-22V
+15.5
B-*S5AE2B<X/7>-A..

A TUNER AUDIO CONTROL
AUDIO AMP AV SW
RGB JUNGLE YC PROCESSOR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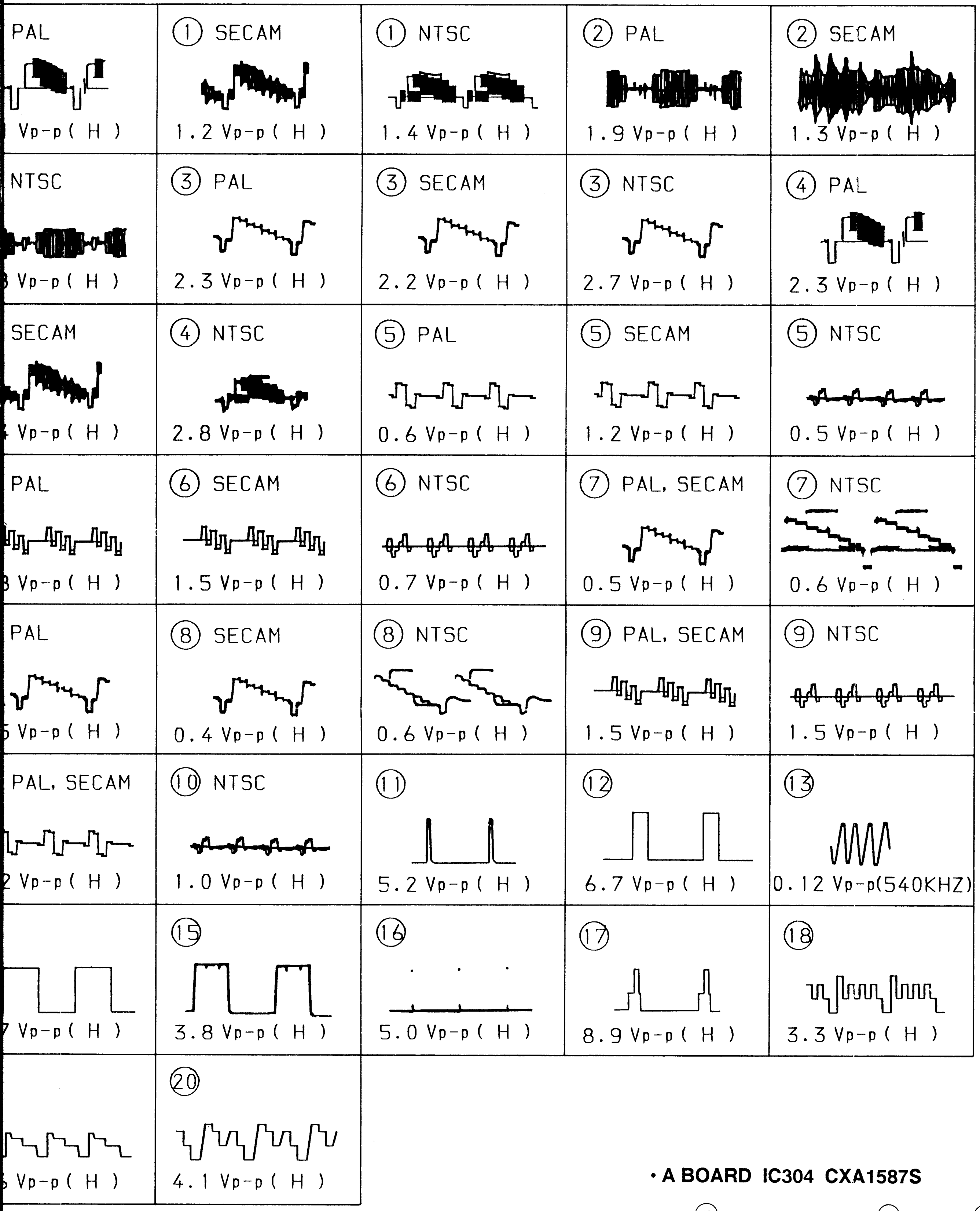
TO D BOARD CN0504
IC681 TDA8138A 12V/5V-REG
IC685 EA7605
IC684 MC7809CT REGULATOR
Q210 2SC2412K SW
Q203 2SC2412K H-PULSE-AMP
Q207 2SC2412K AFT-BUFF
Q610 2SB734 7.5V-SW
Q682 DTC114EK
Q071 DTA124EK STBY-INVERTER
Q681 2SD795A-P 6.5V-REG
D681 MTZN-10B
PS682 0.4A
Q316 DTC144EK
IC072 ST24C16C
D068 DAP202K PROTECT
D077 DAN202K PROTECT
D079 MTZJ5.6B
D078 MTZJ5.6B
IC301 TDA9145/N2B
X301 4.43MHz
X302 3.58MHz
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
D304 MTZJ-5.6B
Q314 2SC2412K SW
D313 DAN202K
D312 DAP202K
Q315 2SC2412K DELAY
Q313 2SA1037 Y-BUFF
Q317 2SC2412K
D314 DAN202K
CN0113 40P WHT :BTOB-S
TO M2 BOARD CN1413
STBY
B
G
R
COR
TEXT BLK
H SYNC
H PULSE
VLC
FH
V S/S
V PULSE
IK
V OFF
SDA
SCL
BLK
ABL
MUTE
DGND
FS1
JGND
12V
5V
5V STBY
LC
VIDEO
SYNC IN
DGND
CS
AFT
TV ID
MONO
BIG BLK
AGC ATT
IC304 CXA1587S RGB-JUNGLE
D311 DA204K
Q309 2SC2413K AMP
CN0119 4P YEL :S-MICRO
GND
VM OUT
+12V
VM MUTE
TO VM BOARD CN1819
Q308 2SA1037K VM-SW
D305 DAN202K VM-MUTE
Q582 2SA1037K VIDEO-AMP
Q581 2SC2412K VIDEO-AMP
Q202 2SC2412K MUTE
Q201 2SC2412K MUTE
D206 DAN202K AUTO-MUTE
Q583 2SC2412K
Q312 DTC114EK IK-SW
Q311 DTA144EK IK-SW
CF581 CSB500F2
Q306 2SA1037K BUFFER
D308 DA204K RGB-MUTE1
Q303 2SA1037K
Q304 DTC114EK RGB-MUTE-2
D306 DAN202K
D307 DAN202K
D381 MTZJ-7.5A V-OFF-MUTE
CN0103 8P RED :S-MICRO
R OUT
G OUT
B OUT
+12V
GND
IK
GND
GND
TO C BOARD CN0403
CN0107 4P RED :S-MICRO
SDA
SCL
GND
VBLK
OPEN
CN0106 5P BLK :S-MICRO
XRAY
H PULSE
HD
GND
ABL
TO D BOARD CN0506
+15.5V
+12V
+5V
5V
9V
12V

VEFORMS A BOARD



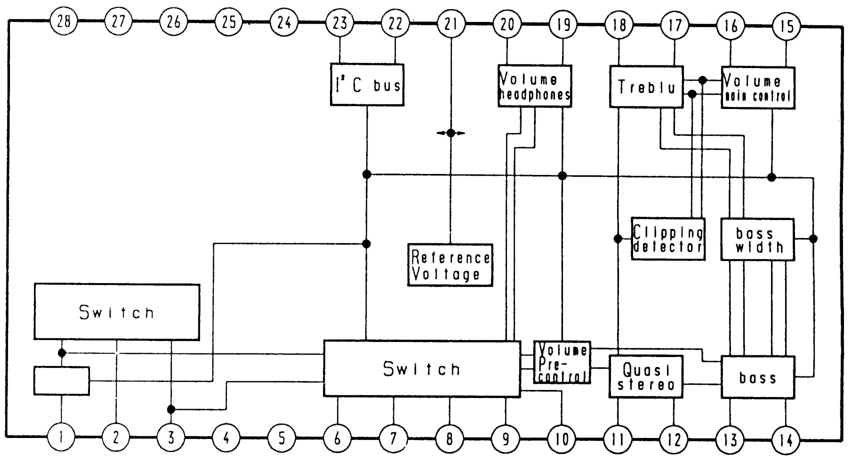
o the voltage volue shown by mark ※ on the Schematic am, see the another list.

ARD

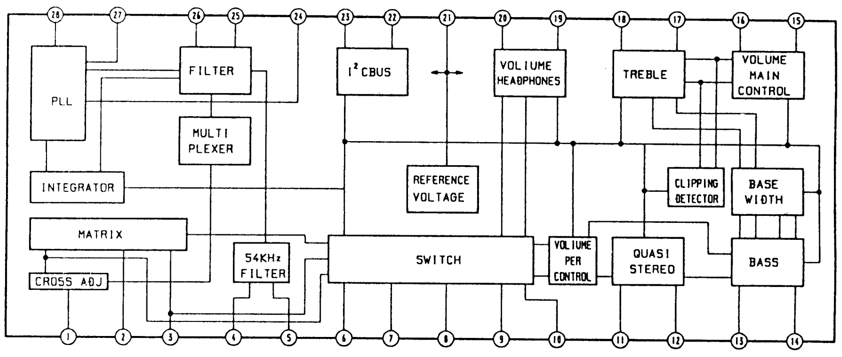
	PAL	SECAM	NTSC3.58	NTSC4.43
⑬	0.0	0.0	4.8	4.9
⑮	0.0	5.0	5.0	0.0
⑰	4.7	4.2	3.6	4.1
⑱	4.8	4.4	4.6	4.8
B)	0.0	0.0	0.0	1.6
C)	5.5	5.5	5.5	0.1
B)	0.0	5.5	5.5	0.0
C)	0.0	0.0	0.0	1.6

A	KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
	-	-	-	20P	20P
	TDA6612	TDA6612	TDA6612	TDA6612	TDA6622
	IFH-389F	IFH-389	IFH-389	IFH-389	IFH-395
	UV916H	UV916H	UV916H	UV916H	U944C

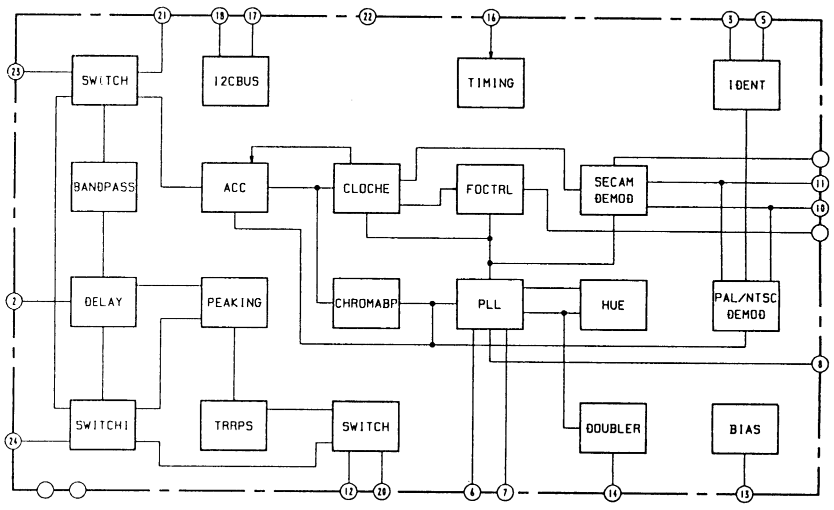
• A BOARD IC201 TDA6622 (UK Model only)


I²C bus
Volume headphones
Treblu
Volume main control
Reference Voltage
Clipping detector
bass width
Switch
Switch
Volume Pre-control
Quasi stereo
bass

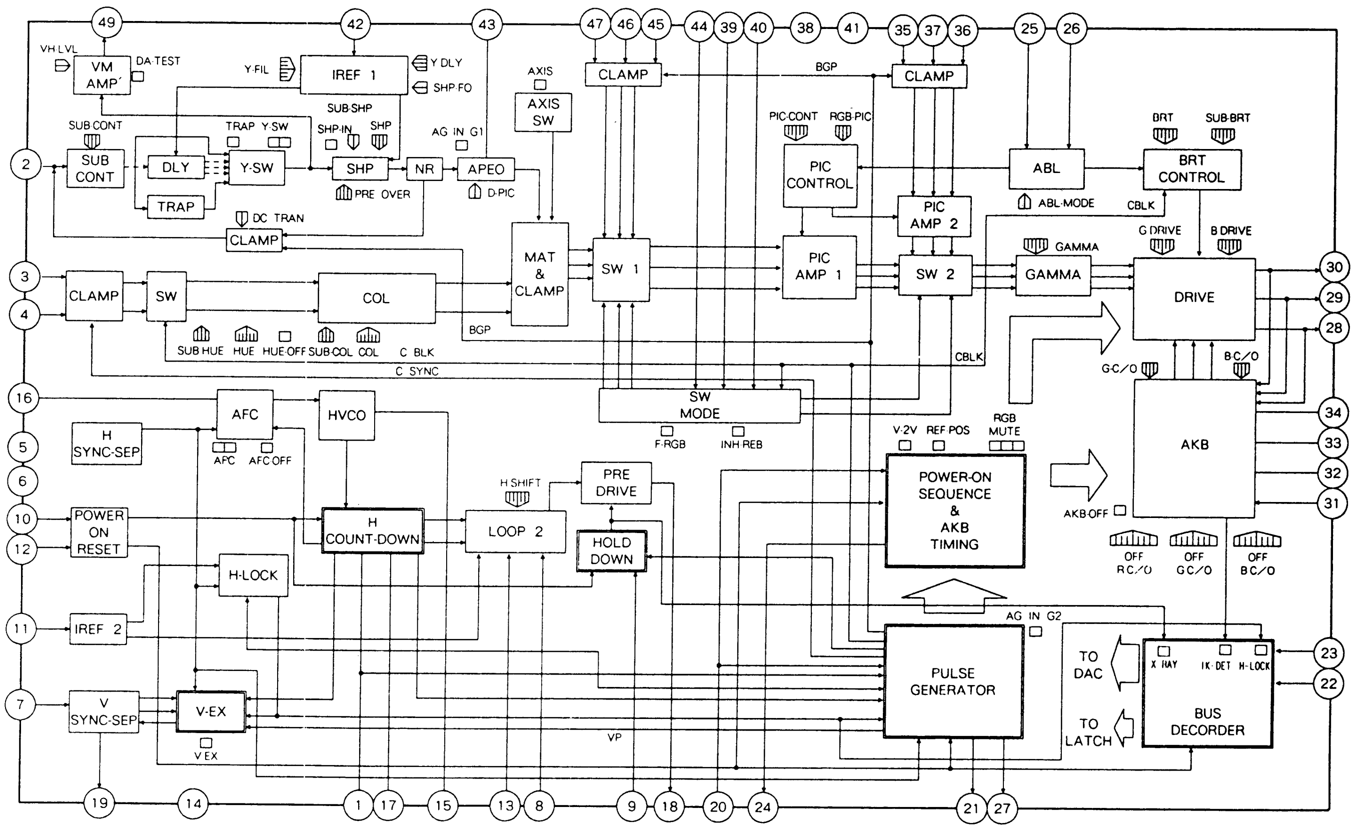
• A BOARD IC201 TDA6612


PLL
FILTER
MULTI PLEXER
I²CBUS
VOLUME HEADPHONES
TREBLE
VOLUME MAIN CONTROL
INTEGRATOR
REFERENCE VOLTAGE
CLIPPING DETECTOR
BASE WIDTH
MATRIX
54KHz FILTER
SWITCH
VOLUME PER CONTROL
QUASI STEREO
BASS
CROSS ADJ

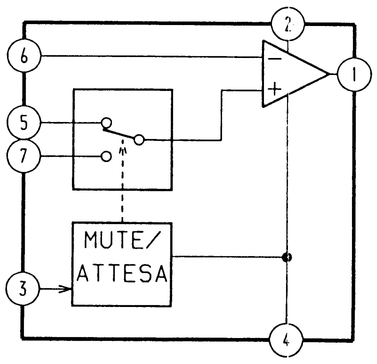
• A BOARD IC301 TDA9145


SWITCH
I2CBUS
TIMING
IDENT
BANDPASS
ACC
CLOCHE
FOCTRL
SECAM DEMOD
DELAY
PEAKING
CHROMABP
PLL
HUE
PAL/NTSC DEMOD
SWITCHI
TRAPS
SWITCH
DOUBLER
BIAS

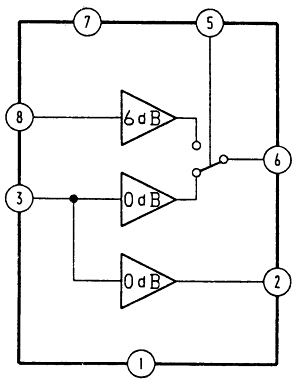
• A BOARD IC304 CXA1587S


VH LVL
VM AMP
DA TEST
Y FIL
IREF 1
Y DLY
SHP FO
AXIS
AXIS SW
CLAMP
CLAMP
BGP
SUB CONT
SUB CONT
TRAP
Y SW
SUB SHP
SHP IN
SHP
AG IN G1
DLY
Y-SW
SHP
NR
APEO
PRE OVER
D-PIC
TRAP
DC TRAN
CLAMP
PIC CONT
RGB-PIC
PIC CONTROL
PIC AMP 2
PIC AMP 1
ABL
ABL MODE
BRT
SUB BRT
BRT CONTROL
CBLK
GAMMA
G DRIVE
B DRIVE
MAT & CLAMP
SW 1
SW 2
GAMMA
DRIVE
CLAMP
SW
COL
SUB HUE
HUE
HUE OFF
SUB COL
COL
C BLK
BGP
C SYNC
CBLK
GC/O
BC/O
SW MODE
F-RGB
INH REB
AFC
HVCO
H SYNC-SEP
AFC
AFC OFF
V 2V
REF POS
RGB MUTE
AKB
POWER-ON SEQUENCE & AKB TIMING
AKB OFF
OFF RC/O
OFF GC/O
OFF BC/O
H SHIFT
PRE DRIVE
POWER ON RESET
H COUNT-DOWN
LOOP 2
HOLD DOWN
H-LOCK
AG IN G2
IREF 2
PULSE GENERATOR
TO DAC
TO LATCH
X RAY
IK DET
H-LOCK
BUS DECORDER
V SYNC-SEP
V-EX
V EX
VP

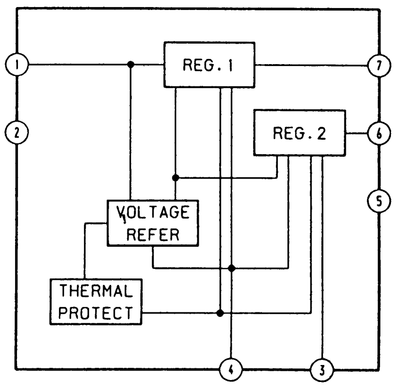
• A BOARD IC251/261 TDA2052


MUTE/ ATTESA

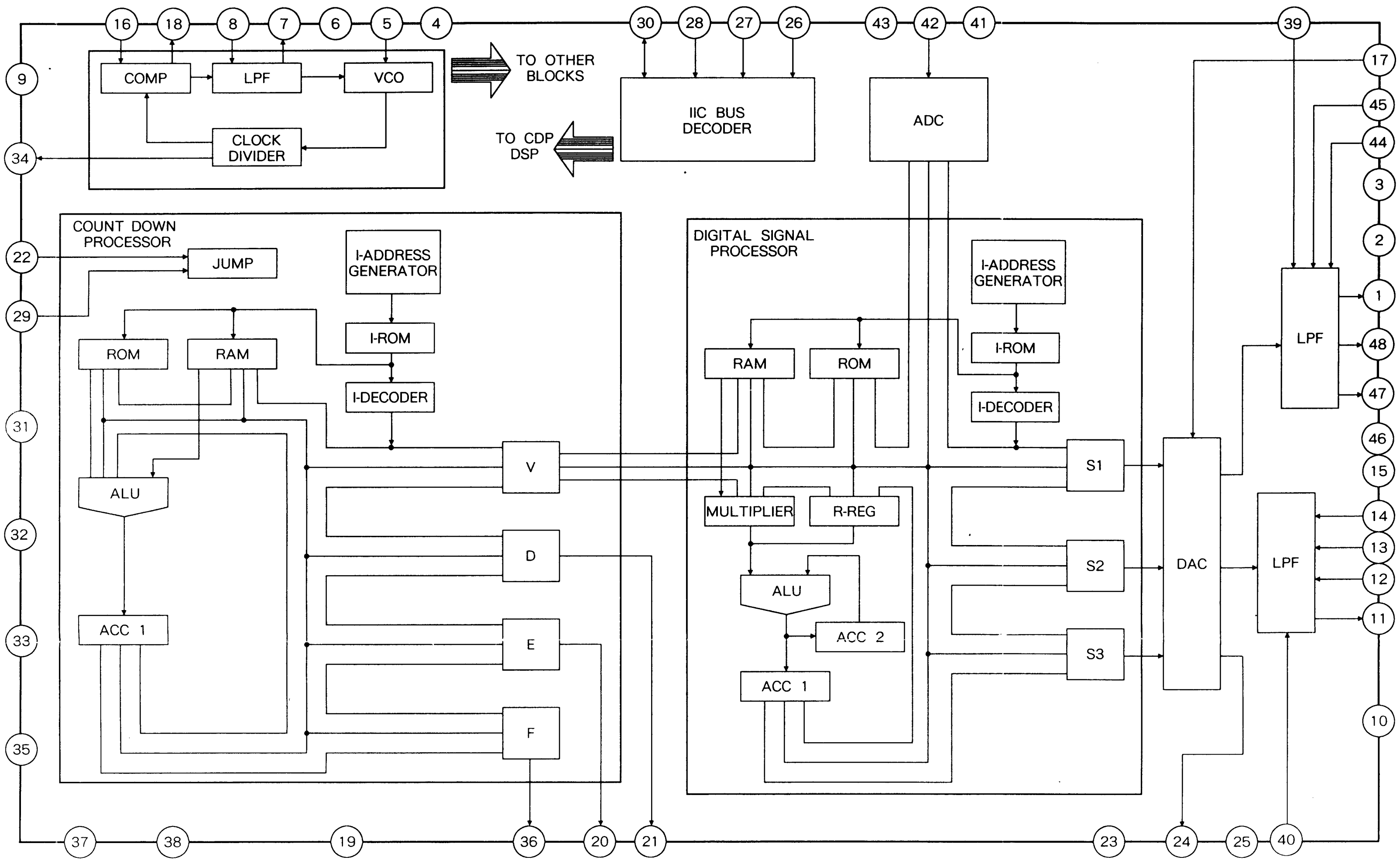
• A BOARD IC402 TEA2114



• A BOARD IC681 TDA8134A


REG. 1
REG. 2
VOLTAGE REFER
THERMAL PROTECT

• M2 BOARD IC561 CXD2018Q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41
39
9
COMP
LPF
VCO
CLOCK DIVIDER
34
TO OTHER BLOCKS
TO CDP DSP
IIC BUS DECODER
ADC
17
45
44
3
2
1
48
47
46
15
14
13
12
11
10
COUNT DOWN PROCESSOR
22
JUMP
29
I-ADDRESS GENERATOR
I-ROM
I-DECODER
ROM
RAM
ALU
ACC 1
V
D
E
F
31
32
33
35
DIGITAL SIGNAL PROCESSOR
I-ADDRESS GENERATOR
I-ROM
I-DECODER
RAM
ROM
MULTIPLIER
R-REG
ALU
ACC 2
ACC 1
S1
S2
S3
DAC
LPF
LPF
37
38
19
36
20
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24
25
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P

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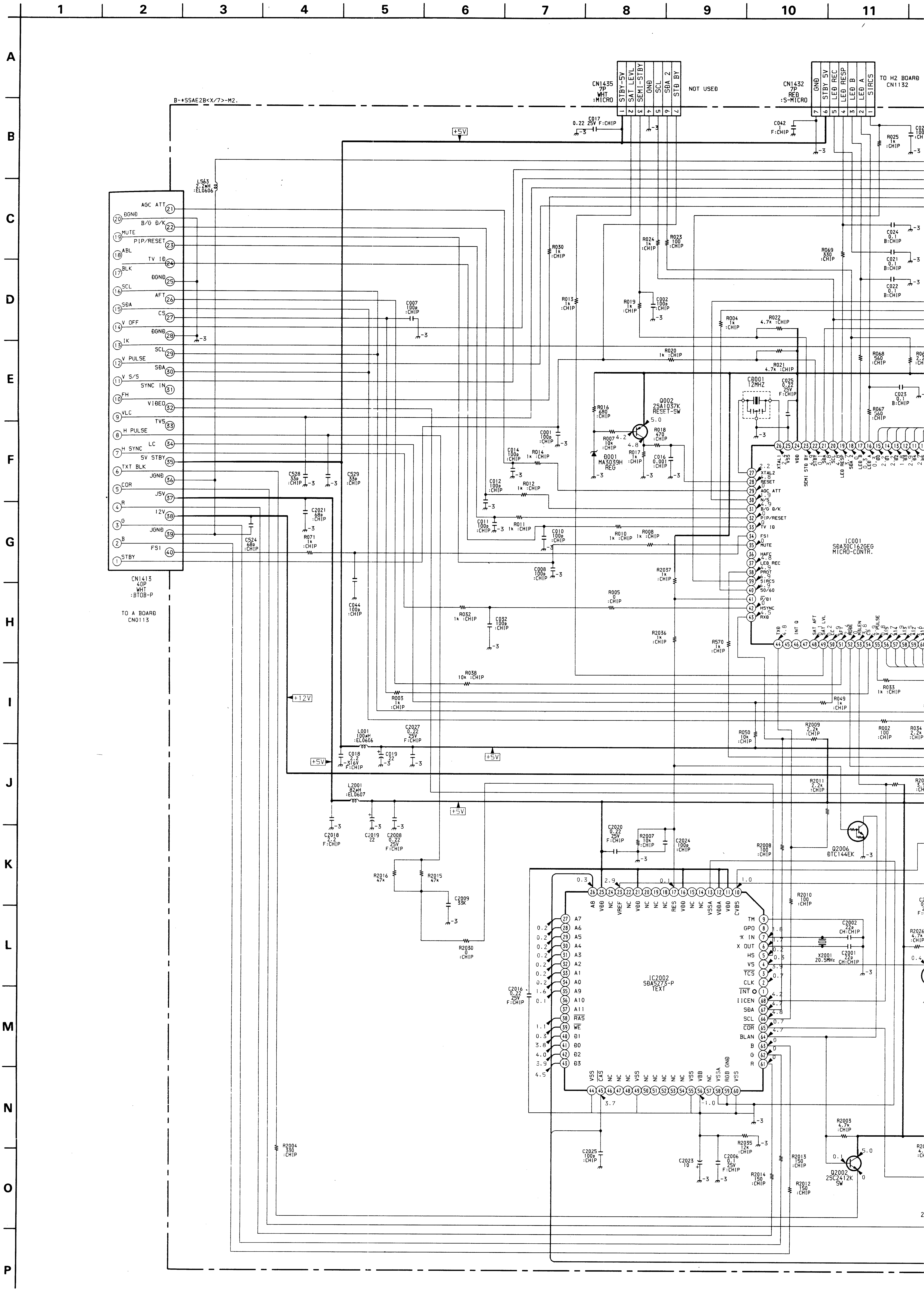
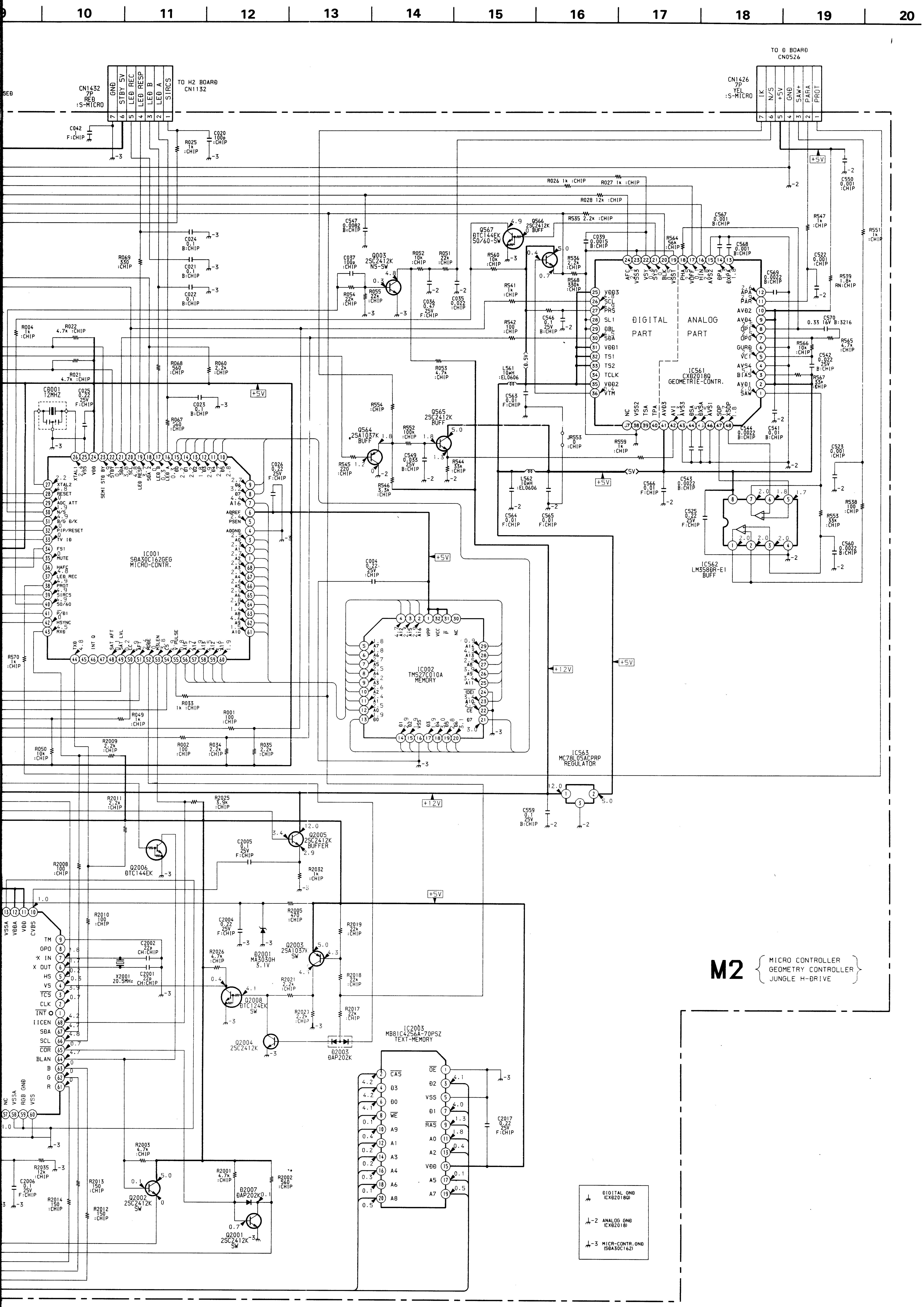
B-*SSAE2B<X/7>-M2.
CN1435 7P WHT :MICRO
STBY-5V
SAT LEVL
SEMI-STBY
GND
SCL
SDA 2
STD BY
NOT USED
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
TO H2 BOARD CN1132
+5V
+12V
L563 2.2μH :EL0606
CN1413 40P WHT :BTOB-P
TO A BOARD CN0113
AGC ATT
DGND
B/G D/K
MUTE
PIP/RESET
ABL
TV ID
BLK
DGND
SCL
AFT
SDA
CS
V OFF
DGND
IK
SCL
V PULSE
SDA
V S/S
SYNC IN
FH
VIDEO
VLC
TV5
H PULSE
LC
H SYNC
5V STBY
TXT BLK
JGND
COR
J5V
R
12V
G
JGND
B
FS1
STBY
Q002 2SA1037K RESET-SW
D001 MA3039H REG
CB001 12MHZ
IC001 SDA30C162GEG MICRO-CONTR.
XTAL1
VSS
VDD
SEMI STB BY
RESET
AGC ATT
N/S
B/G D/K
PIP/RESET
TV ID
FS1
MUTE
HAFC
LED REC
PROT
SIRCS
50/60
P/01
HSYNC
RXD
TXD
INT D
SAT AFT
SAT LVL
V PULSE
L001 100μH :EL0606
L2001 82μH :EL0607
IC2002 SDA5273-P TEXT
A8
VDD
NC
VREF
RES
VSSA
CVBS
A7
A6
A5
A4
A3
A2
A1
A0
A9
A10
A11
RAS
WE
D1
D0
D2
D3
TM
GPO
X IN
X OUT
HS
VS
TCS
CLK
INT
IICEN
SDA
SCL
COR
BLAN
B
G
R
VSS
CAS
VBB
RGB GND
X2001 20.5MHz
Q2006 DTC144EK
Q2002 2SC2412K SW
1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K L M N O P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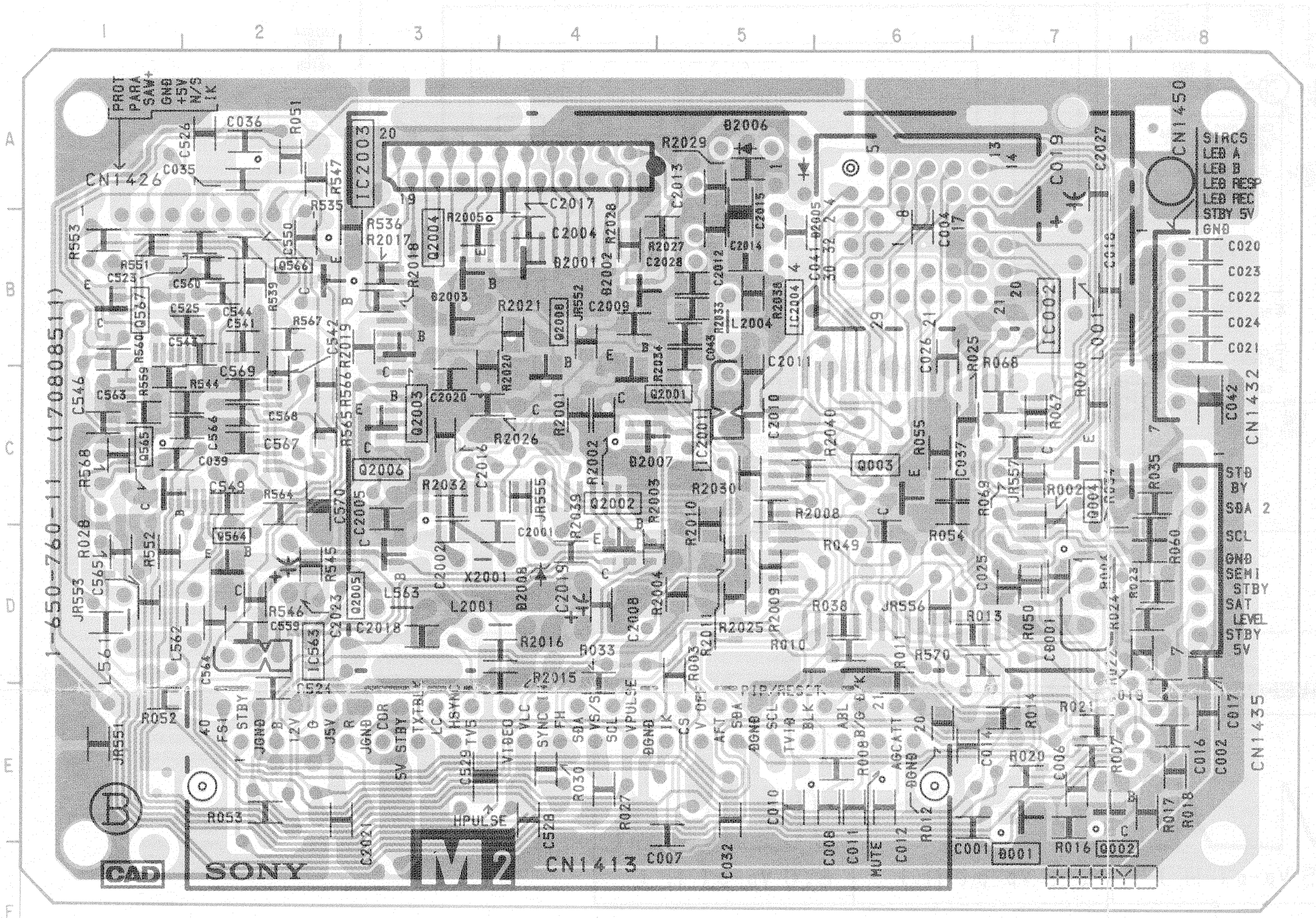
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
TO H2 BOARD CN1132
TO D BOARD CN0526
CN1426 7P YEL :S-MICRO
IK
N/S
+5V
GND
SAW+
PARA
PROT
IC001 SDA30C162GEG MICRO-CONTR.
CD001 12MHZ
IC002 TMS27C010A MEMORY
IC561 CXD2018Q GEOMETRIE-CONTR.
DIGITAL PART
ANALOG PART
IC562 LM358DR-E1 BUFF
IC563 MC78L05ACPRP REGULATOR
IC2003 MB81C4256A-70PSZ TEXT-MEMORY
Q003 2SC2412K NS-SW
Q564 2SA1037K BUFF
Q565 2SC2412K BUFF
Q566 2SC2412K BUFF
Q567 DTC144EK 50/60-SW
Q2001 2SC2412K SW
Q2002 2SC2412K SW
Q2003 2SA1037K SW
Q2004 2SC2412K
Q2005 2SC2412K BUFFER
Q2006 DTC144EK
Q2008 DTC124EK SW
D2001 MA3030H 3.1V
D2003 DAP202K
D2007 DAP202K
X2001 20.5MHz
L561 10µH :EL0606
L562 10µH :EL0606
+5V
+12V
5V
DIGITAL GND (CXD2018Q)
-2 ANALOG GND (CXD2018)
-3 MICR-CONTR.GND (SDA30C162)

M2 MICRO CONTROLLER GEOMETRY CONTROLLER JUNGLE H-DRIVE

– M2 BOARD –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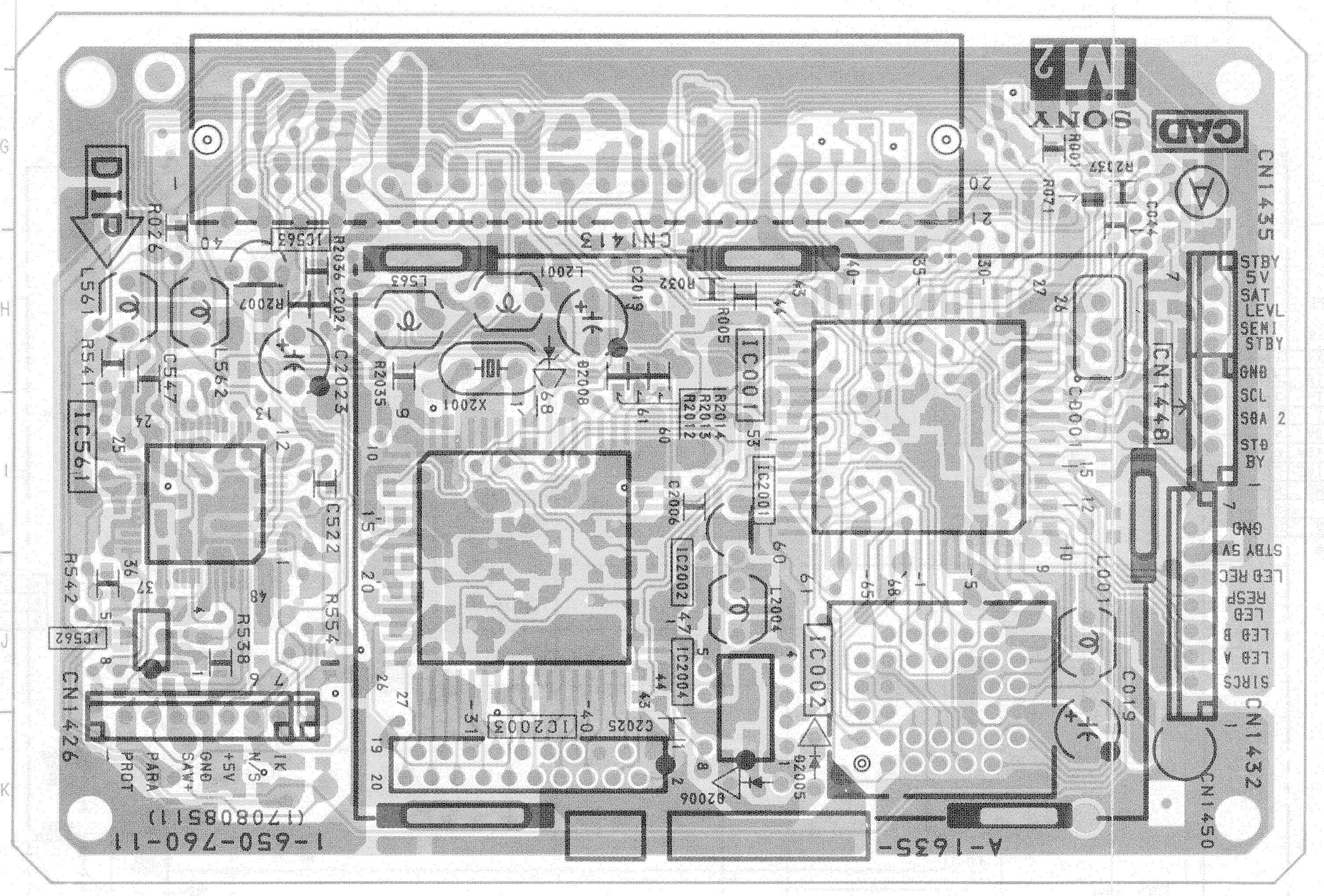
A
B
C
D
E
F
CN1426
PROT
PARA
SAW+
GND
+5V
N/S
IK
IC2003
IC2004
IC2001
IC2002
IC001
CN1450
SIRCS
LED A
LED B
LED RESP
LED REC
STBY 5V
GND
CN1432
CN1435
STBY
SDA 2
SCL
GND
SEMI STBY
SAT LEVEL
STBY 5V
1-650-760-11 (17080851)
CN1413
HPULSE
SONY
CAD
M2
B


G
H
I
J
K
DIP
CN1413
IC561
IC562
IC563
IC001
IC2001
IC2002
IC2003
IC2004
IC002
CN1448
CN1435
CN1432
CN1450
CN1426
PROT
PARA
SAW+
GND
+5V
N/S
IK
STBY 5V
SAT LEVL
SEMI STBY
GND
SCL
SDA 2
STB BY
GND
STBY 5V
LED REC
RESP LED
LED B
LED A
SIRCS
1-650-760-11
(17080851)
A-1635-
SONY
CAD
M2
A

IC	
IC001	C – 3
IC002	B – 3, J – 3
IC561	C – 8
IC562	B – 8
IC563	D – 7, H – 7
IC2001	C – 4, I – 4
IC2002	C – 6
IC2003	B – 5, J – 6
IC2004	A – 4, J – 4

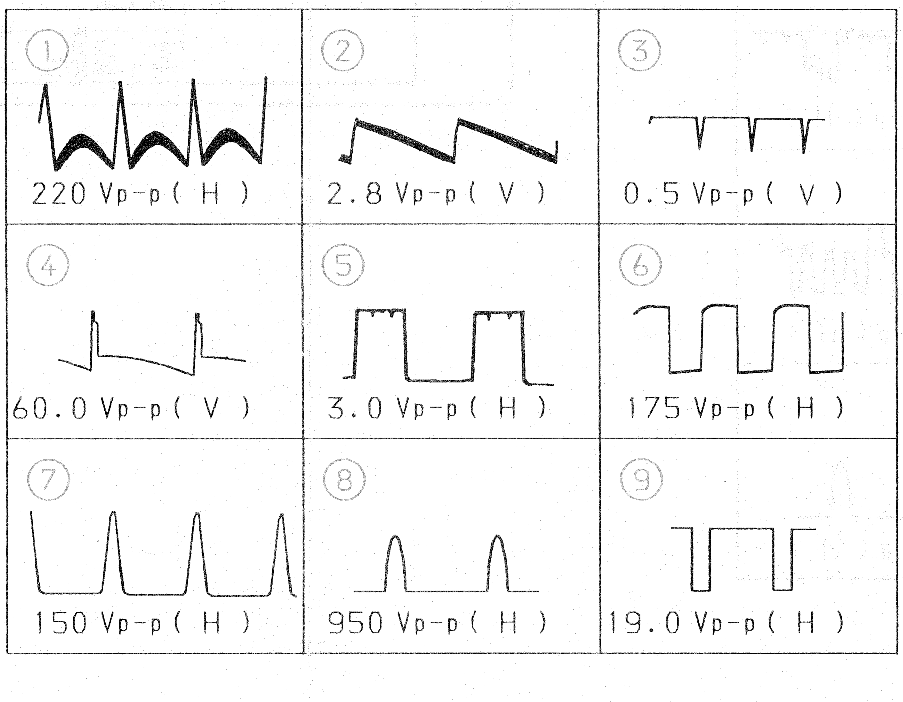
TRANSISTOR	
Q002	G – 2
Q003	I – 3
Q564	H – 7
Q565	I – 8
Q566	J – 7
Q567	J – 8
Q2001	I – 5
Q2002	J – 5
Q2003	I – 6
Q2005	H – 5
Q2006	K – 5
Q2008	I – 6

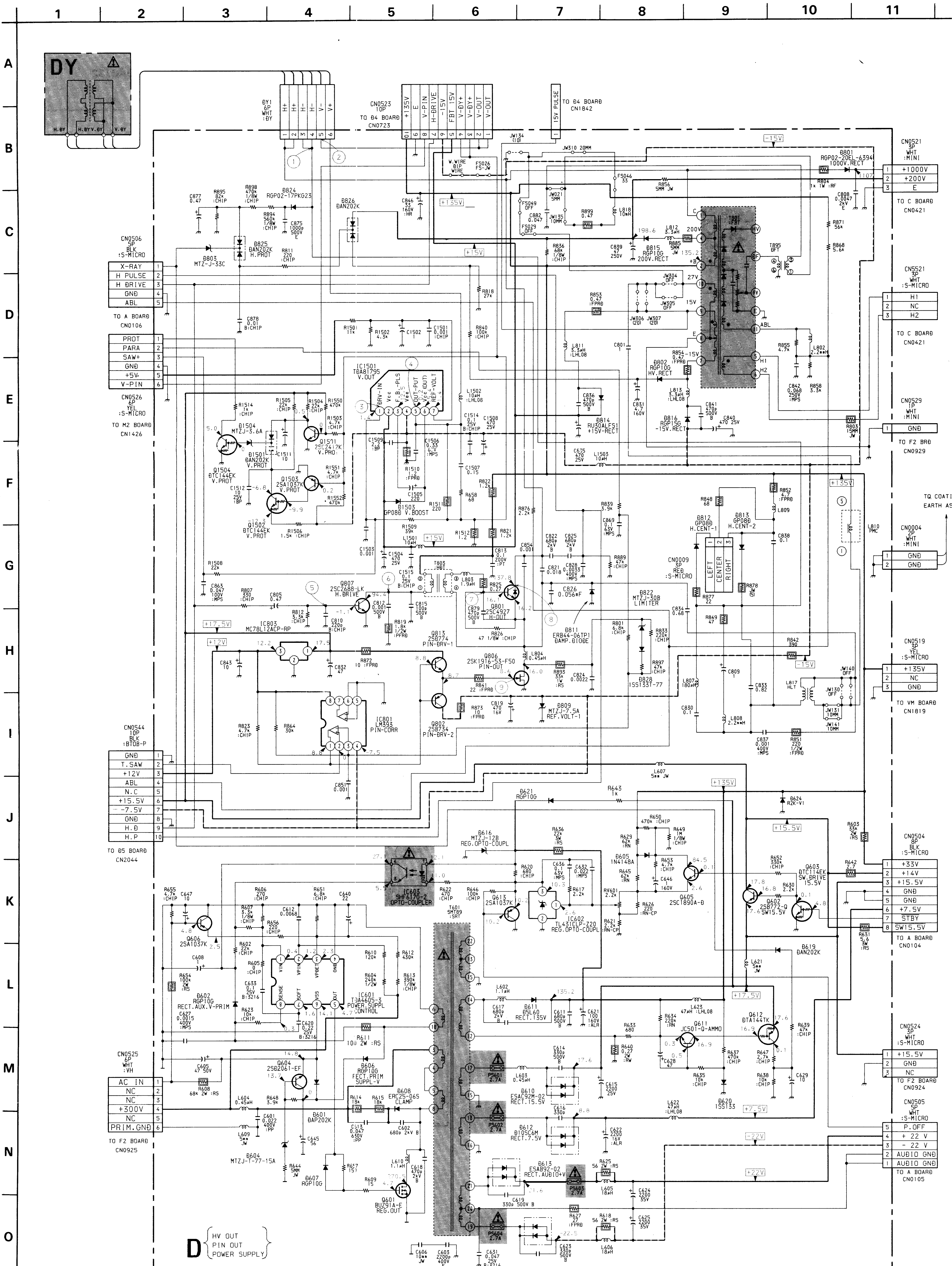
DIODE	
D001	G – 2
D2001	I – 5
D2002	J – 5
D2003	I – 6

Note :

- ▭ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

- **WAVEFORMS D BOARD**

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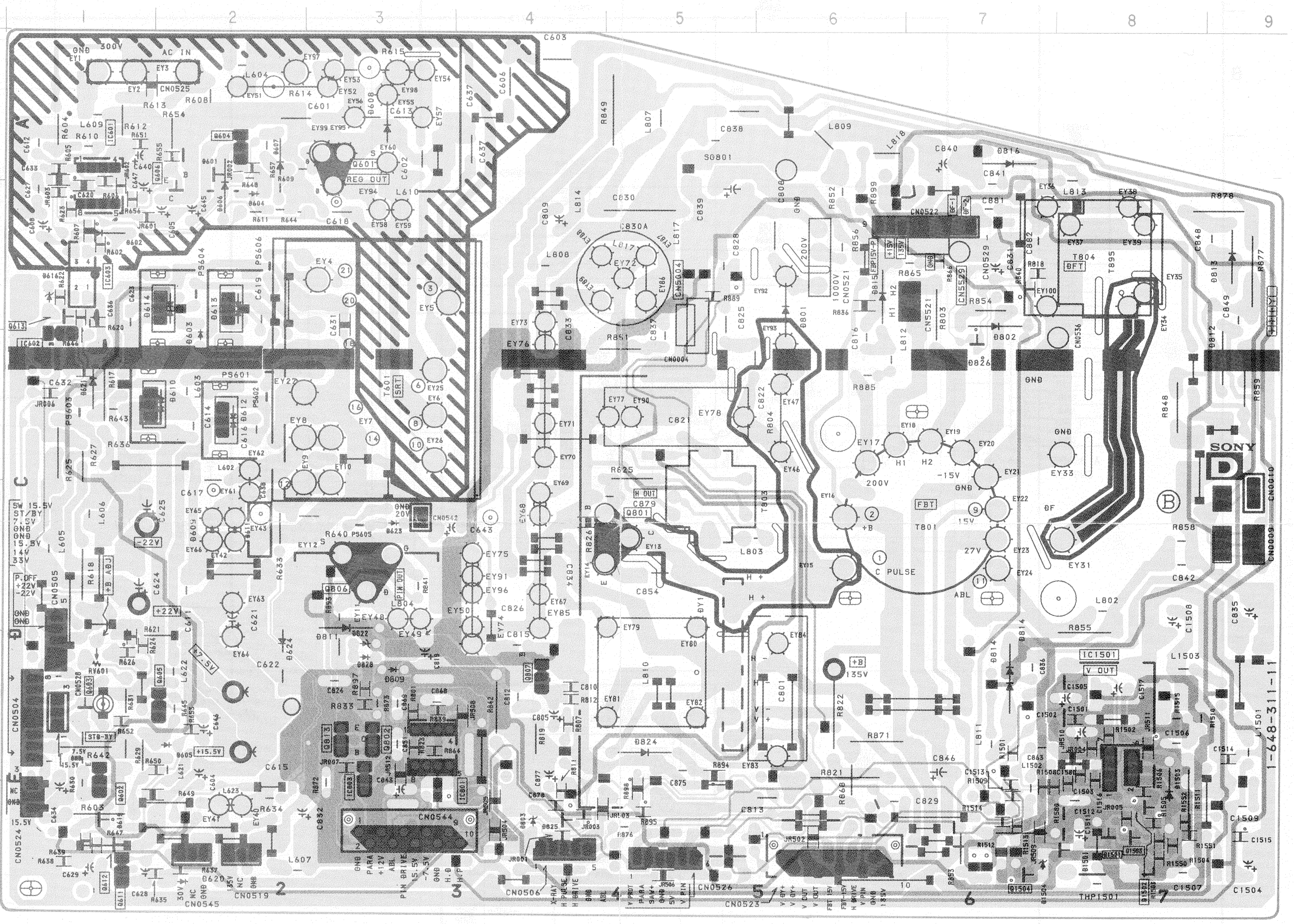
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
DY
H.BY
H.BY V.BY
V.BY
DY1
6P
WHT
:DY
H+
H+
H-
H-
V-
V+
CN0523
10P
TO D4 BOARD
CN0723
+135V
E
V-PIN
H-DRIVE
-15V
FBT 15V
V-DY+
V-DY+
V-OUT
V-OUT
15V PULSE
TO D4 BOARD
CN1842
JW134
JW310 20MM
-15V
D801
RGP02-20EL-6394
1000V.RECT
CN0521
3P
WHT
:MINI
+1000V
+200V
E
TO C BOARD
CN0421
W.WIRE
D1P
WIRE
FS026
FS-JW
FS046
R856
5MM JW
R804
1k 1W :RF
C808
0.0047
2kV
C877
0.47
R895
82k
:CHIP
R898
470k
1/8W
:CHIP
D824
RGP02-17PKG23
R894
560k
1/8W
:CHIP
C875
1000p
500V
D826
DAN202K
C846
33
160V
:HR
+135V
FS049
OFF
JW021
5MM
C882
0.047
JW135
10MM
FS029
OFF
R899
0.47
L818
10μH
L812
3.3μH
R885
5MM
JW
T801
FBT
T895
DFT
R871
56k
R868
5.6k
CN0506
5P
BLK
:S-MICRO
X-RAY
H PULSE
H DRIVE
GND
ABL
TO A BOARD
CN0106
D803
MTZ-J-33C
D825
DAN202K
H.PROT
R811
220
:CHIP
+15V
R836
68k
1/8W
:CHIP
C839
47
250V
D815
RGP10G
200V.RECT
198.6
200V
135.2
R818
27k
JW304
OFF
27V
15V
JW305
OFF
R853
0.47
:FPRD
JW306
JW307
CN5521
3P
WHT
:S-MICRO
H1
NC
H2
TO C BOARD
CN0421
C878
0.01
B:CHIP
R1501
11k
R1502
4.3k
C1502
1
C1501
0.001
:CHIP
R840
100k
:CHIP
L811
3.3μH
:LHL08
C801
R854
0.47
:FPRD
D802
RGP10G
HV.RECT
ABL
R855
4.7k
L802
2.2mH
CN0526
6P
YEL
:S-MICRO
PROT
PARA
SAW+
GND
+5V
V-PIN
TO M2 BOARD
CN1426
IC1501
TDA8179S
V.OUT
DRV-IN
Vcc
F.B.-PLS
Vcc
OUT-PUT
Vcc (OUT)
REF-VOLT
L1502
10μH
:LHL08
C836
470p
500V
D814
RU3OALFS1
+15V-RECT
L813
3.3μH
:LHL08
C841
470p
500V
C831
4.7
160V
C840
470 25V
D816
RGP15G
-15V.RECT
C842
0.068
250V
:MPS
R858
3.3k
CN0529
1P
WHT
:MINI
GND
TO F2 BRD
CN0929
R803
15MM
JW
R1514
1k
:CHIP
R1505
22k
:CHIP
R1504
22k
:CHIP
R1550
470k
R1503
4.7k
:CHIP
D1504
MTZJ-3.6A
Q1501
2SC2412K
V.PRO
D1501
DAN202K
V.PROT
C1511
10
Q1504
DTC144EK
V.PROT
C1514
25V
B:CHIP
C1508
470
25V
C1509
2.2
:BP
C1506
0.33
:MPS
R1510
1.2
:FPRD
C1507
0.15
C635
470
25V
L1503
10μH
R1551
4.7k
:CHIP
Q1503
2SA1037K
V.PROT
C1512
10
25V
:BP
R1552
470k
Q1502
DTC144EK
V.PROT
R1506
1.5k :CHIP
C1505
220
D1503
GP08D V.BOOST
R1511
220
R822
1.2k
R658
68
R876
2.2k
R839
3.9k
C869
0.1
63V
:MPS
R848
68
R852
4.7
:FPRD
L809
D812
GP08D
H.CENT-1
D813
GP08D
H.CENT-2
C838
0.1
+135V
TQ COATI
EARTH AS
L810
PMC
CN0004
2P
WHT
:MINI
GND
GND
R1509
39k
L1501
10μH
+15V
R1512
1.2
R821
1.2k
C1503
0.001
C1504
470
25V
C1515
0.1
25V
B:CHIP
T803
HDT
L803
1.9μH
R825
0.27
C813
0.1
200V
:PT
C854
0.001
C822
680p
2kV
C821
0.018
C825
680p
2kV
C828
0.0033
400V
:MPS
R889
47k
:CHIP
CN0009
3P
RED
:S-MICRO
LEFT
CENTER
RIGHT
R878
R877
22
R1508
22k
C863
0.047
100V
:MPS
R807
330
:CHIP
C805
0.47
R812
3.3k
:CHIP
C810
220p
B:CHIP
Q807
2SC2688-LK
H.DRIVE
C812
0.001
500V
R819
1.8k
1/2W
:PFRD
C815
100p
500V
C879
470p
500V
Q801
2SC4927
H-OUT
R826
47 1/8W :CHIP
C826
0.056mF
D811
ERB44-06TP1
DAMP.DIODE
D822
MTZJ-30B
LIMITER
C834
0.68
R849
47
+17.5V
IC803
MC78L12ACP-RP
+12V
Q813
2SB774
PIN-DRV-1
R801
6.8k
:CHIP
R833
220k
:CHIP
R842
390
C843
10
C832
47
R872
10 :FPRD
Q806
2SK1916-53-F50
PIN-OUT
L804
0.45mH
R893
33k
1W
:RS
C824
0.0022
R897
47k
:CHIP
D828
1SS133T-77
C809
1
L807
180mH
C833
0.82
L817
HLT
JW140
OFF
JW130
OFF
CN0519
3P
YEL
:S-MICRO
+135V
NC
GND
TO VM BOARD
CN1819
R841
22 :FPRD
R873
10
:FPRD
C819
470
16V
D809
MTZJ-7.5A
REF.VOLT-1
R823
4.7k
:CHIP
R864
30k
IC801
LM393
PIN-CORR
Q802
2SB734
PIN-DRV-2
C830
0.1
L808
2.2mH
JW131
10MM
JW141
10MM
C837
0.001
400V
:MPS
R851
220
1/2W
:FPRD
CN0544
10P
BLK
:BTOB-P
GND
T.SAW
+12V
ABL
N.C
+15.5V
-7.5V
GND
H.D
H.P
TO D5 BOARD
CN2044
C851
0.001
L607
5mm JW
+135V
D621
RGP10G
R643
1k
D624
R2K-V1
D616
MTZJ-12B
REG.OPTO-COUPL
R636
22k
3W
:RS
R650
470k :CHIP
R629
62k
:RN
R649
1M
1/8W
:CHIP
+15.5V
R603
33k
2W
:RS
CN0504
8P
BLK
:S-MICRO
+33V
+14V
+15.5V
GND
GND
+7.5V
STBY
SW15.5V
TO A BOARD
CN0104
IC603
SHF6170-2
OPTO-COUPLER
R620
680
:CHIP
C636
0.1
63V
:MPS
C632
0.022
:MPS
D605
1N4148A
R645
62k
:RN
R653
4.7k
:CHIP
C646
1
160V
R652
330k
:CHIP
Q603
DTC114EK
SW.DRIVE
15.5V
R642
2.7
R655
4.7k
:CHIP
C647
10
R606
270
:CHIP
R651
6.8k
:CHIP
C640
22
R622
470
:CHIP
R646
100k
:CHIP
Q613
2SA1037K
R617
2.2k
RV601
2.2k
Q605
2SC1890A-D
R630
2.2k
Q602
2SB772-Q
SW15.5V
R607
3.3k
1/8W
:CHIP
C612
0.0068
T601
SMT89
:SRT
IC602
TL431CLP-Z20
REG.OPTO-COUPL
R626
22
:RN-CP
R621
2.2k
:RN-CP
R631
5.6
3W
:RS
Q606
2SA1037K
R656
220
:CHIP
R602
22k
:CHIP
R610
120k
R612
430k
D619
DAN202K
C608
R605
0
:CHIP
R654
100k
2W
:RS
C633
0.1
25V
B:3216
R604
240k
1/8W
:CHIP
R613
390k
1/8W
:CHIP
IC601
TDA4605-3
POWER.SUPPL
CONTROL
VIN
VP
VPBE
GND
SENSE
SOFT
ISS
OUT
L621
5mm
JW
D602
RGP10G
RECT.AUX.V-PRIM
C627
0.0015
400V
:MPS
R623
10k
:CHIP
C620
0.22
25V
B:3216
L602
1.1μH
C617
680p
2kV
D611
D5L60
RECT.135V
C611
680p
500V
C621
100
160V
:ALR
+17.5V
L623
47μH :LHL08
R634
220k
:RN
Q611
JC501-Q-AMMO
Q612
DTA144TK
R639
47k
:CHIP
R611
10Ω 2W :RS
R633
680
R640
0.27
2W
:RW
C628
47
R637
470k
:CHIP
R647
2.7k
:CHIP
CN0524
3P
WHT
:S-MICRO
+15.5V
GND
NC
TO F2 BOARD
CN0924
CN0525
6P
WHT
:VH
AC IN
NC
NC
+300V
NC
PRIM.GND
TO F2 BOARD
CN0925
C605
47 50V
R608
68k 2W :RS
Q604
2SD2061-EF
D606
RGP10G
FECT.PRIM
SUPPL-V
C614
330p
500V
PS601
2.7A
L603
0.45mH
D610
ESAC92M-02
RECT.15.5V
C615
2200
25V
R635
10k
:CHIP
R638
10k
:CHIP
C629
10
L604
0.45mH
R648
3.9k
D601
DAP202K
R614
18k
R615
18k
D608
ERC25-06S
CLAMP
C616
330p
L622
47μH
:LHL08
D620
1SS133
+7.5V
CN0505
5P
WHT
:S-MICRO
P.OFF
+22V
-22V
AUDIO GND
AUDIO GND
TO A BOARD
CN0105
L609
5mm
JW
C601
0.022
400V
:PP
C613
0.047
630V
:PP
C645
56
C602
680p 2kV B
PS602
2.7A
D612
D10SC6M
RECT.7.5V
C622
2200
16V
:ALR
-22V
D604
MTZJ-T-77-15A
R644
5MM
JW
R657
15Ω
L610
1.1μH
C618
470p
2kV
B
D613
ESAB92-02
RECT.AUDIO+V
R625
56 2W :RS
C624
2200
35V
+22V
D607
RGP10G
R609
15
Q601
BUZ91A-E
REG.OUT
C619
330p 500V B
PS603
2.7A
L605
18μH
R627
27
:FPRD
R618
56 2W :RS
C625
2200
35V
D
HV OUT
PIN OUT
POWER SUPPLY
C606
10mm
JW
C603
2200p
400V
E
PS604
2.7A
C631
0.047
25V
B:3216
C623
330p
500V
B
L606
18μH
D614
ESAB92-02
RECT.AUDIO-V
B-:SSAE2A<X/7-0..-29

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

– D BOARD –


1
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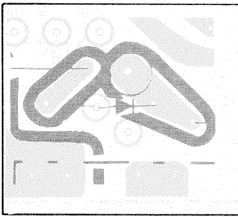
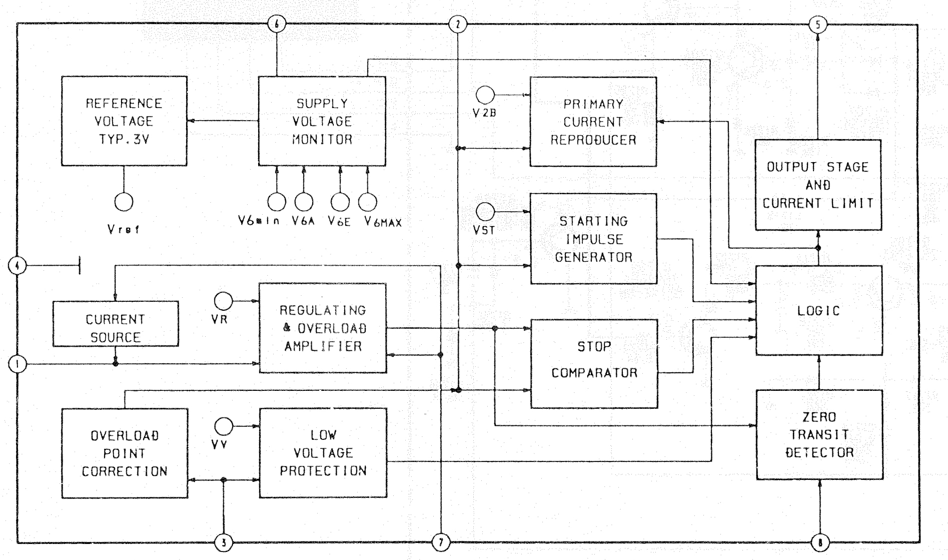
7
8
9
A
B
C
D
E
F
AC IN
CN0525
CN0504
CN0505
CN0524
CN0545
CN0519
CN0544
CN0506
CN0526
CN0523
CN0522
CN0521
IC601
IC602
IC603
IC1501
T801
FBT
T804
BFT
H OUT
PIN OUT
V OUT
REG OUT
-15V
200V
135V
C PULSE
ABL
SONY
D
1-648-311-11
THP1501



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• D BOARD IC601 TDA4605-3


REFERENCE VOLTAGE TYP.3V
Vref
SUPPLY VOLTAGE MONITOR
V6min
V6A
V6E
V6MAX
V2B
PRIMARY CURRENT REPRODUCER
OUTPUT STAGE AND CURRENT LIMIT
VST
STARTING IMPULSE GENERATOR
LOGIC
CURRENT SOURCE
VR
REGULATING & OVERLOAD AMPLIFIER
STOP COMPARATOR
OVERLOAD POINT CORRECTION
VV
LOW VOLTAGE PROTECTION
ZERO TRANSIT DETECTOR
4
2
5
1
3
7
6

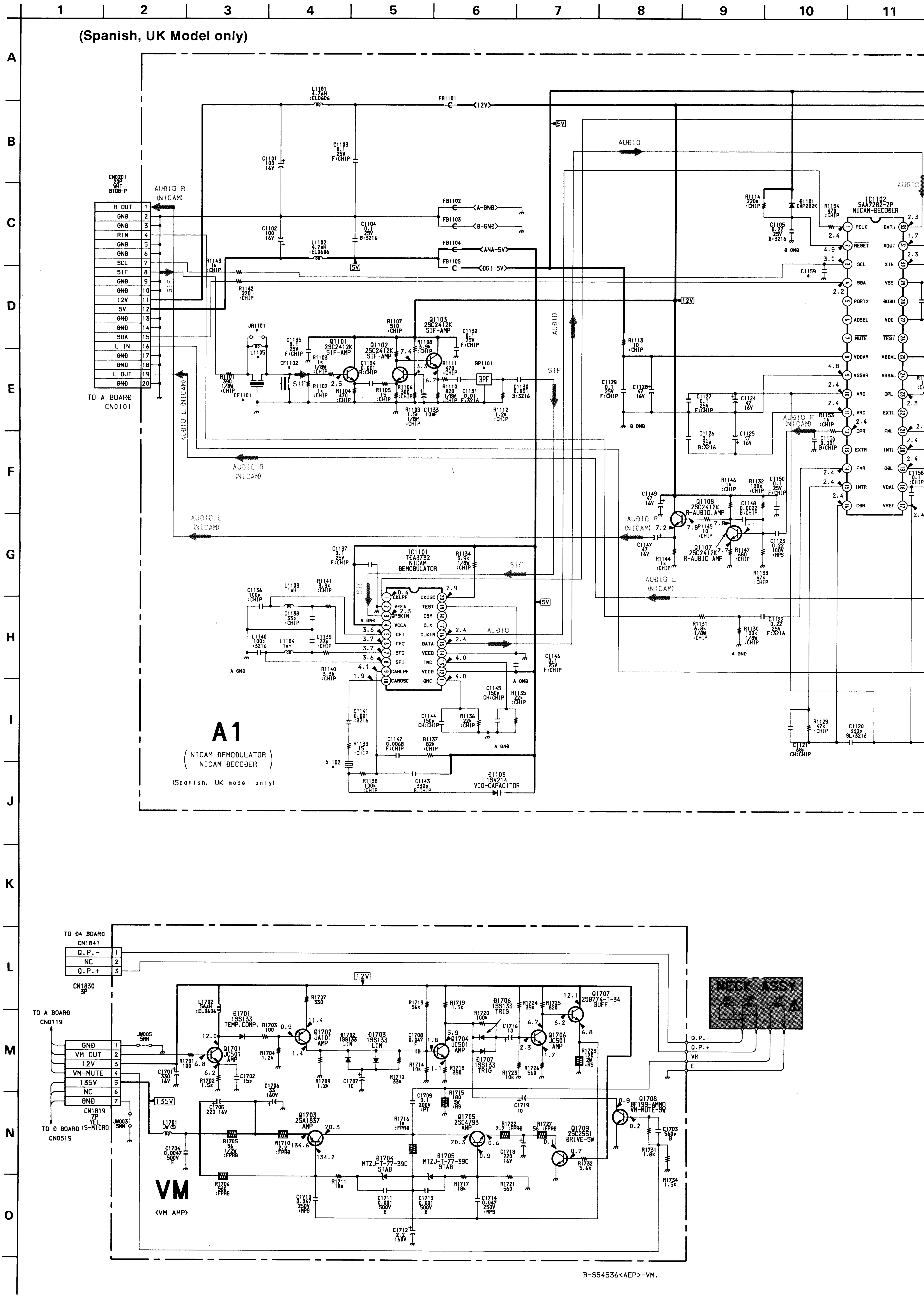
IC	
IC601	A – 1
IC602	C – 1
IC603	B – 1
IC801	E – 3
IC803	F – 3
IC1501	E – 8

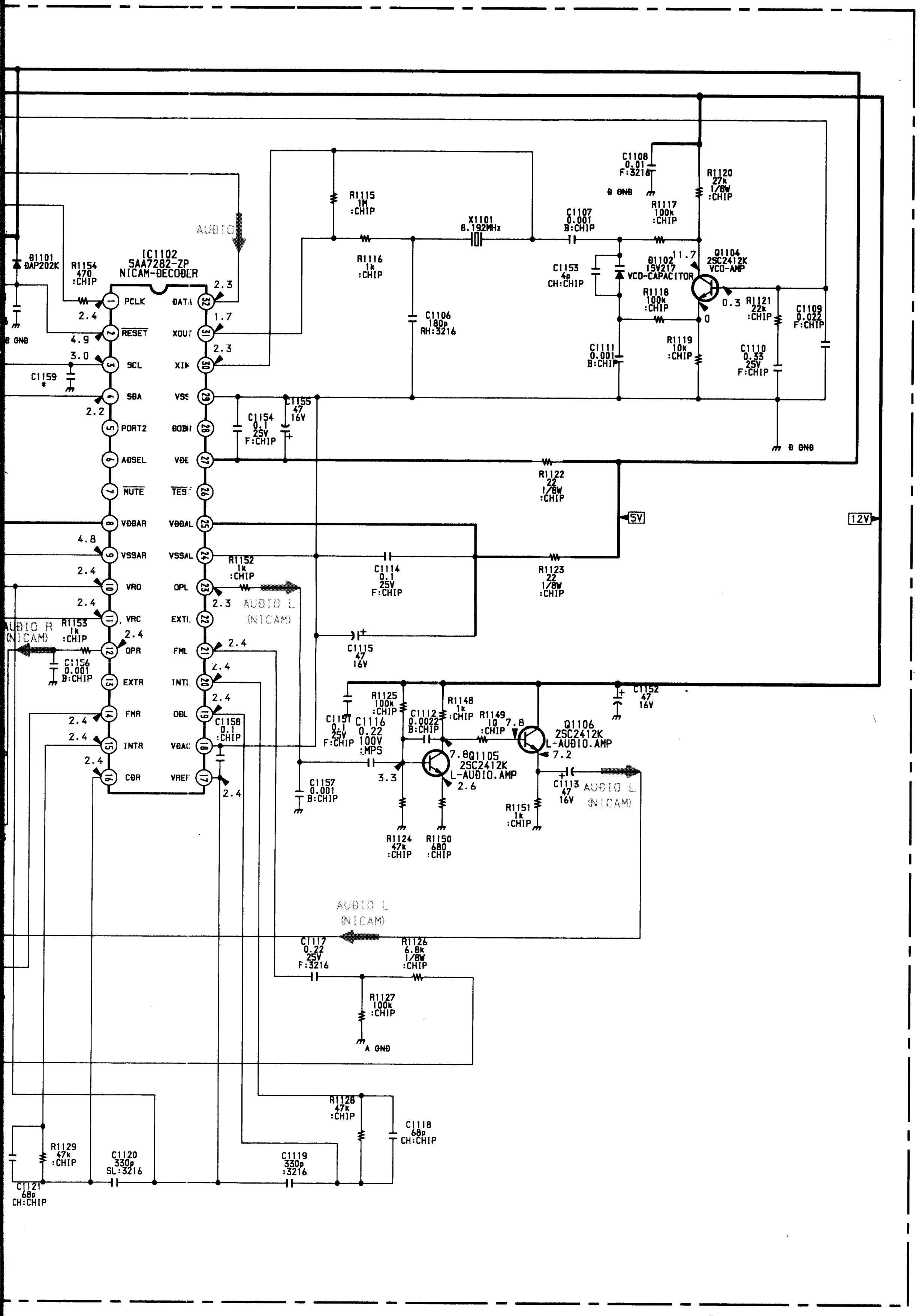
TRANSISTOR	
Q601	A – 3
Q602	F – 1
Q603	E – 1
Q604	A – 2
Q605	E – 2
Q606	B – 2
Q611	F – 1
Q612	F – 1
Q613	B – 1
Q801	D – 5
Q802	E – 3
Q806	D – 3
Q807	E – 4
Q813	E – 3
Q1501	F – 8
Q1502	F – 8
Q1503	F – 8
Q1504	F – 7

DIODE	
D601	A – 2
D602	B – 1
D604	B – 2
D605	E – 2
D606	B – 2
D607	A – 2
D608	A – 3
D610	C – 2
D611	D – 2
D612	C – 2
D613	B – 2
D614	B – 2
D616	B – 1
D619	F – 1
D620	F – 2
D621	C – 1
D624	E – 2
D801	B – 6
D802	B – 7
D803	F – 4
D809	E – 3
D811	D – 3
D812	C – 9
D813	B – 9
D814	E – 7
D815	B – 6
D816	A – 7
D822	E – 3
D824	E – 5
D825	F – 4
D826	C – 7
D828	E – 3
D1501	F – 8
D1503	F – 8
D1504	F – 7

VARIABLE RESISTOR	
RV601	E – 1

(Spanish, UK Model only)


A1
NICAM DEMODULATOR
NICAM DECODER
(Spanish, UK model only)
IC1101 TDA3732 NICAM DEMODULATOR
IC1102 SAA7282-ZP NICAM-DECODER
CN0201 20P WHT BTOB-P
TO A BOARD CN0101
AUDIO R (NICAM)
AUDIO L (NICAM)
SIF
AUDIO
Q1101 2SC2412K SIF-AMP
Q1102 2SC2412K SIF-AMP
Q1103 2SC2412K SIF-AMP
Q1107 2SC2412K R-AUDIO.AMP
Q1108 2SC2412K R-AUDIO.AMP
D1103 1SV214 VCO-CAPACITOR
VM
(VM AMP)
TO D4 BOARD CN1841
CN1830 3P
TO A BOARD CN0119
CN1819 7P YEL :S-MICRO
TO D BOARD CN0519
Q1701 JC501 AMP
Q1702 JA101 AMP
Q1703 2SA1837 AMP
Q1704 JC501 AMP
Q1705 2SC4793 AMP
Q1706 JC501 AMP
Q1707 2SD774-T-34 BUFF
Q1708 BF199-AMMO VM-MUTE-SW
Q1709 2SC2551 DRIVE-SW
D1701 1SS133 TEMP.COMP.
D1704 MTZJ-T-77-39C STAB
D1705 MTZJ-T-77-39C STAB
NECK ASSY
Q.P.-
Q.P.+
VM
E
B-SS4536<AEP>-VM.

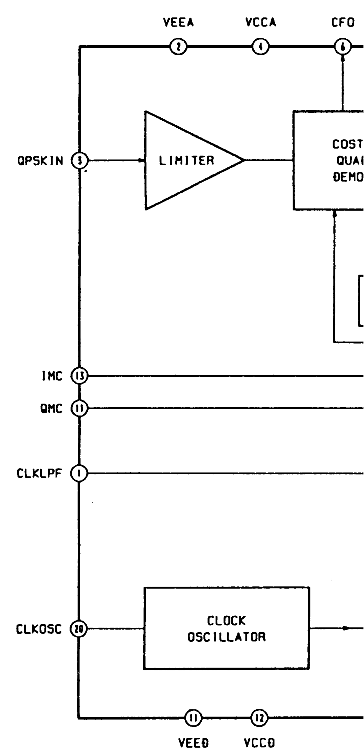

IC1102
SAA7282-ZP
NICAM-DECODER
PCLK
RESET
SCL
SDA
PORT2
ADSEL
MUTE
VDDAR
VSSAR
VRO
VRC
OPR
EXTR
FMR
INTR
CBR
DATA
XOUT
XIN
VSS
BDDI
VDD
TEST
VDDAL
VSSAL
OPL
EXTL
FML
INTL
DBL
VBAL
VREF
X1101
8.192MHz
Q1104
2SC2412K
VCO-AMP
D1102
1SV217
VCO-CAPACITOR
Q1105
2SC2412K
L-AUDIO.AMP
Q1106
2SC2412K
L-AUDIO.AMP
AUDIO
AUDIO L
(NICAM)
AUDIO R
(NICAM)
5V
12V
A GND
B GND
D1101
GMA202K

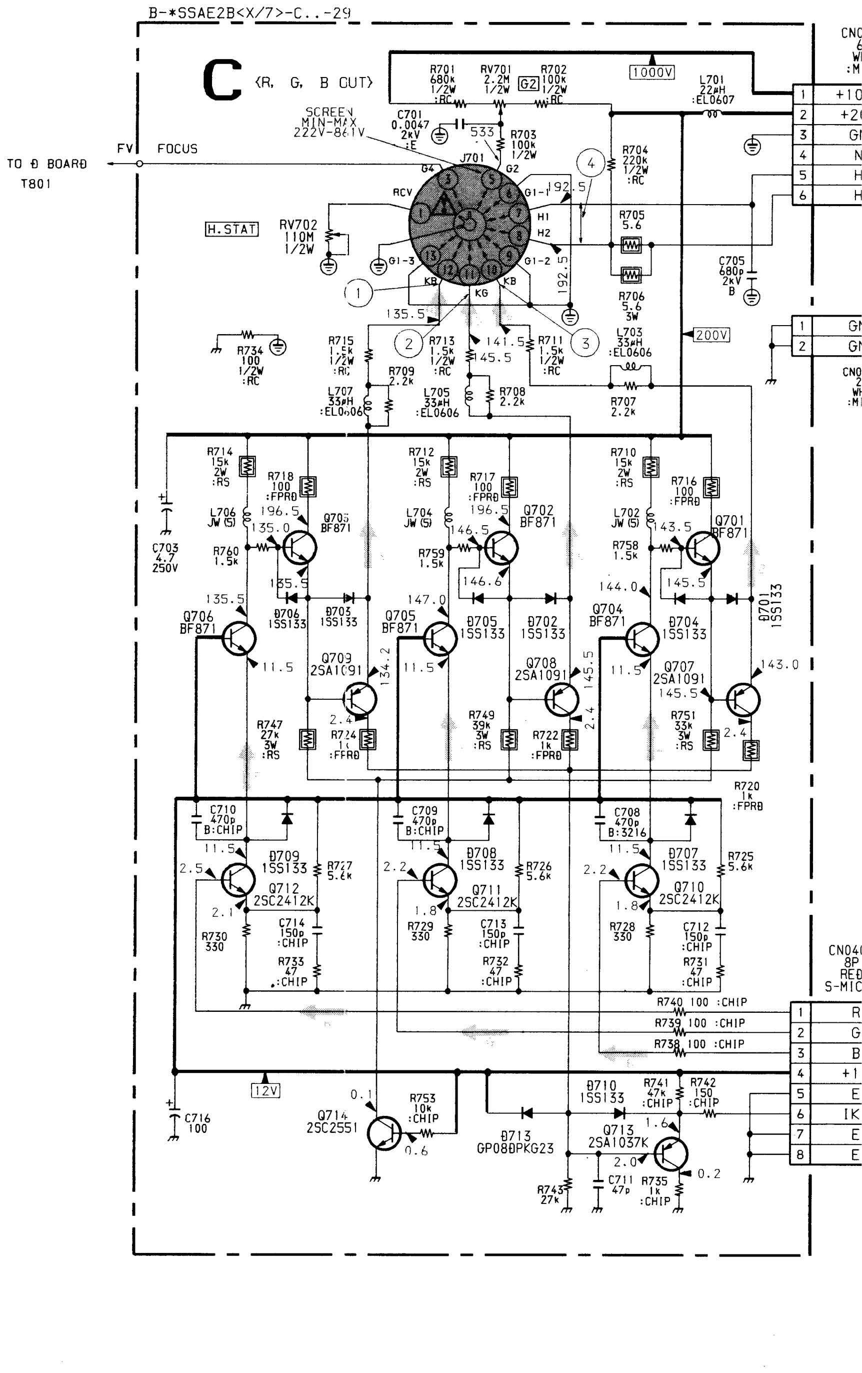
B-SS4536<AEP>-A1.

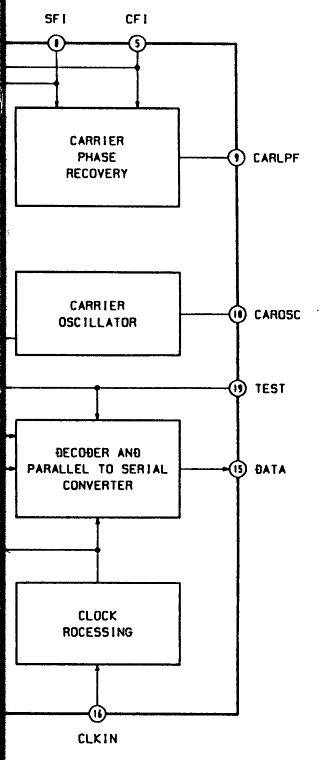
A1 BOARD * MARK

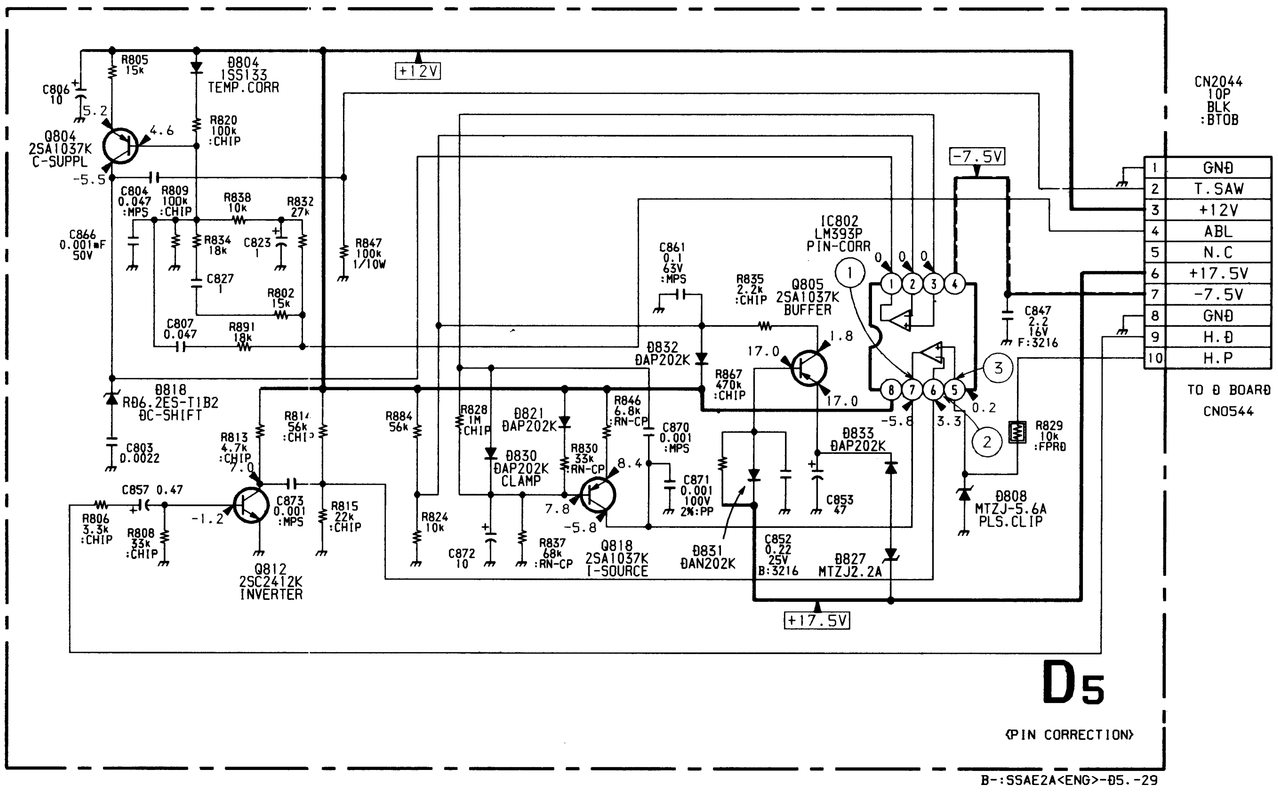
Model	KV-X2973E	KV-X2972U
BP1101	5.850MHz	6.552MHz
C1159	-	47P
CF1101	-	6.0MHz
CF1102	5.5MHz	-
JR1101	0 : CHIP	-
L1105	-	15MMh
X1102	11.700MHz	13.104MHz

• A1 BOARD IC1101 TD

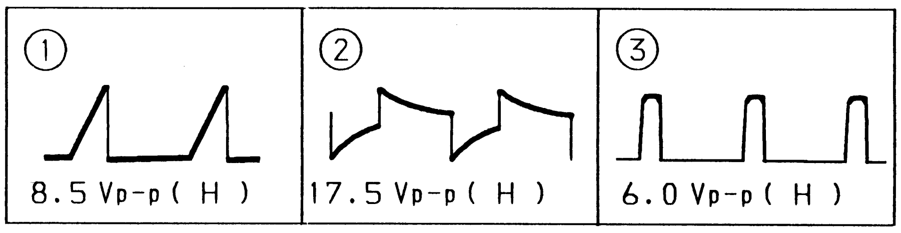

VEEA
VCCA
CFO
QPSKIN
LIMITER
COST
QUA
DEMO
IMC
QMC
CLKLPF
CLKOSC
CLOCK
OSCILLATOR
VEED
VCCD

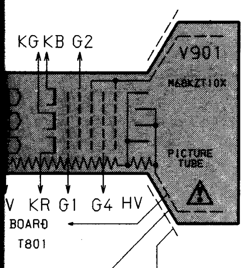

B-*SSAE2B<X/7>-C..-29
C (R, G, B CUT)
TO D BOARD
T801
FV
FOCUS
SCREEN
H.STAT
RV702
110M
1/2W
J701
1000V
200V
12V
Q701
BF871
Q702
BF871
Q703
2SA1091
Q704
BF871
Q705
BF871
Q706
BF871
Q707
2SA1091
Q708
2SA1091
Q709
1SS133
Q710
2SC2412K
Q711
2SC2412K
Q712
2SC2412K
Q713
2SA1037K
Q714
2SC2551
D713
GP08DPKG23
CN0
CN04

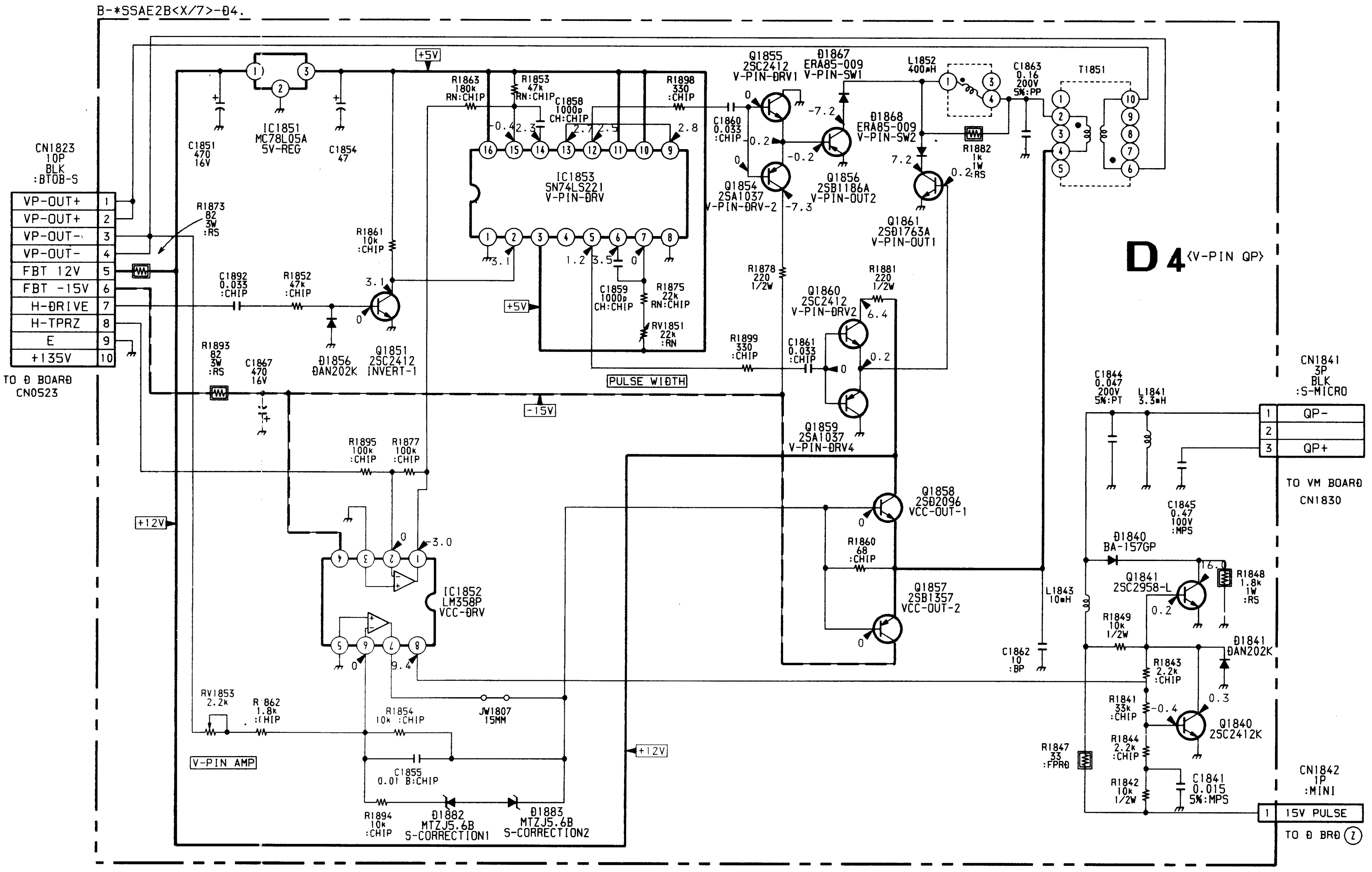

SFI
CFI
CARRIER PHASE RECOVERY
CARLPF
CARRIER OSCILLATOR
CAROSC
TEST
DECODER AND PARALLEL TO SERIAL CONVERTER
DATA
CLOCK ROCESSING
CLKIN


+12V
R805 15k
D804 1SS133 TEMP.CORR
C806 10
Q804 2SA1037K C-SUPPL
R820 100k :CHIP
C804 0.047 :MPS
R809 100k :CHIP
R838 10k
R832 27k
C866 0.001mF 50V
R834 18k
C823 1
C827 1
R847 100k 1/10W
R802 15k
C807 0.047
R891 18k
D818 RB6.2ES-T1B2 DC-SHIFT
C803 0.0022
R813 4.7k :CHIP
R814 56k :CHIP
R884 56k
C857 0.47
R806 3.3k :CHIP
R808 33k :CHIP
Q812 2SC2412K INVERTER
C873 0.001 :MPS
R815 22k :CHIP
R824 10k
C872 10
R828 1M :CHIP
D821 DAP202K
D830 DAP202K CLAMP
R846 6.8k :RN-CP
R830 33k :RN-CP
R837 68k :RN-CP
Q818 2SA1037K I-SOURCE
C870 0.001 :MPS
C871 0.001 100V 2%:PP
D831 DAN202K
C852 0.22 25V B:3216
D827 MTZJ2.2A
C853 47
D833 DAP202K
C861 0.1 63V :MPS
R835 2.2k :CHIP
D832 DAP202K
R867 470k :CHIP
Q805 2SA1037K BUFFER
IC802 LM393P PIN-CORR
-7.5V
C847 2.2 16V F:3216
R829 10k :FPRO
D808 MTZJ-5.6A PLS.CLIP
+17.5V
CN2044 10P BLK :BTOB
1 GND
2 T.SAW
3 +12V
4 ABL
5 N.C
6 +17.5V
7 -7.5V
8 GND
9 H.D
10 H.P
TO D BOARD CN0544
D5
<PIN CORRECTION>
B-:SSAE2A<ENG>-05.-29

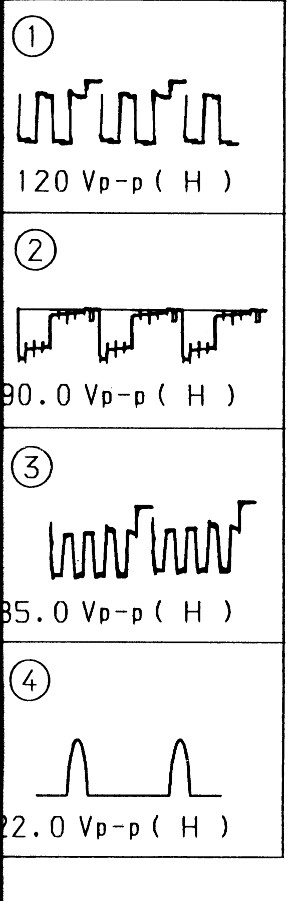
• WAVEFORMS D5 BOARD




KG KB G2
V901
PICTURE TUBE
V KR G1 G4 HV
BOARD
T801

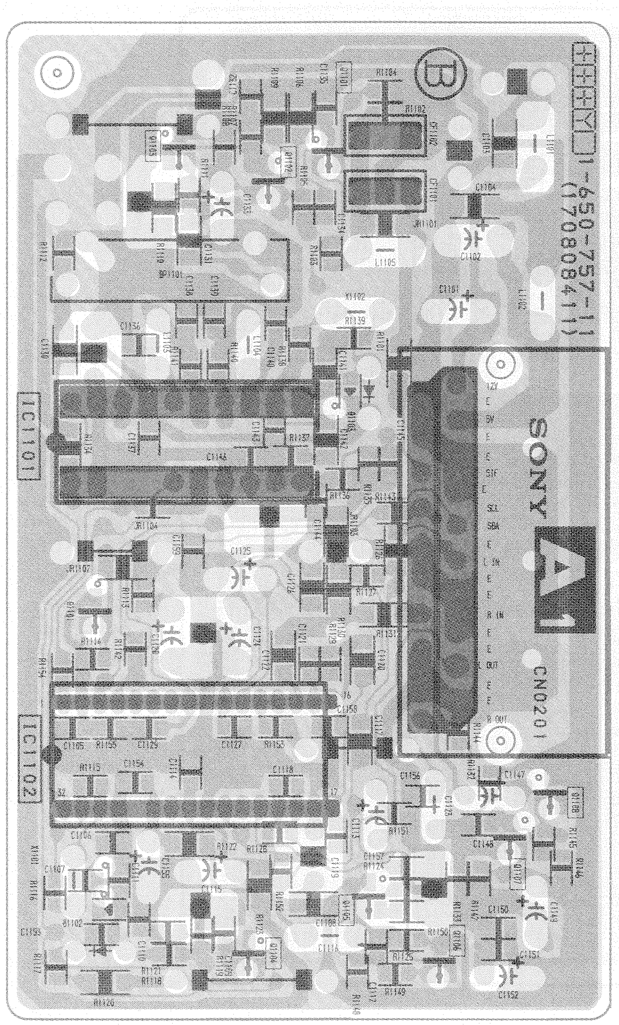

B-*SSAE2B<X/7>-04.
+5V
IC1851 MC78L05A 5V-REG
C1851 470 16V
C1854 47
R1863 180k RN:CHIP
R1853 47k RN:CHIP
C1858 1000p CH:CHIP
R1898 330 :CHIP
IC1853 SN74LS221 V-PIN-DRV
Q1855 2SC2412 V-PIN-DRV1
D1867 ERA85-009 V-PIN-SW1
D1868 ERA85-009 V-PIN-SW2
C1860 0.033 :CHIP
Q1854 2SA1037 V-PIN-DRV-2
Q1856 2SB1186A V-PIN-OUT2
L1852 400mH
C1863 0.16 200V SN:PP
T1851
R1882 1k 1W 0.2:RS
Q1861 2SD1763A V-PIN-OUT1
CN1823 10P BLK :BTOB-S
1 VP-OUT+
2 VP-OUT+
3 VP-OUT-
4 VP-OUT-
5 FBT 12V
6 FBT -15V
7 H-DRIVE
8 H-TPRZ
9 E
10 +135V
TO D BOARD CN0523
R1873 82 3W :RS
R1861 10k :CHIP
C1892 0.033 :CHIP
R1852 47k :CHIP
Q1851 2SC2412 INVERT-1
D1856 DAN202K
R1893 82 3W :RS
C1867 470 16V
C1859 1000p CH:CHIP
R1875 22k RN:CHIP
RV1851 22k :RN
PULSE WIDTH
R1878 220 1/2W
R1881 220 1/2W
Q1860 2SC2412 V-PIN-DRV2
R1899 330 :CHIP
C1861 0.033 :CHIP
Q1859 2SA1037 V-PIN-DRV4
-15V
+12V
R1895 100k :CHIP
R1877 100k :CHIP
IC1852 LM358P VCC-DRV
Q1858 2SD2096 VCC-OUT-1
R1860 68 :CHIP
Q1857 2SB1357 VCC-OUT-2
L1843 10mH
C1862 10 :BP
RV1853 2.2k
R 862 1.8k :CHIP
V-PIN AMP
R1854 10k :CHIP
JW1807 15MM
C1855 0.01 B:CHIP
R1894 10k :CHIP
D1882 MTZJ5.6B S-CORRECTION1
D1883 MTZJ5.6B S-CORRECTION2
D4 <V-PIN QP>
C1844 0.047 200V SN:PT
L1841 3.3mH
CN1841 3P BLK :S-MICRO
1 QP-
2
3 QP+
TO VM BOARD CN1830
C1845 0.47 100V :MPS
D1840 BA-157GP
Q1841 2SC2958-L
R1848 1.8k 1W :RS
R1849 10k 1/2W
D1841 DAN202K
R1843 2.2k :CHIP
R1841 33k :CHIP
Q1840 2SC2412K
R1844 2.2k :CHIP
R1847 33 :FPRO
R1842 10k 1/2W
C1841 0.015 SN:MPS
CN1842 1P :MINI
1 15V PULSE
TO D BRD ⑦

WAVEFORMS C BOARD



A1 [NICAM DECODER, NICAM DEMODULATOR] C [R.G.B OUT] D5 [PIN CORRECTION] VM [VM AMP] D4 [V – PIN Q P]

– A1 BOARD – (Spanish, UK Model only)

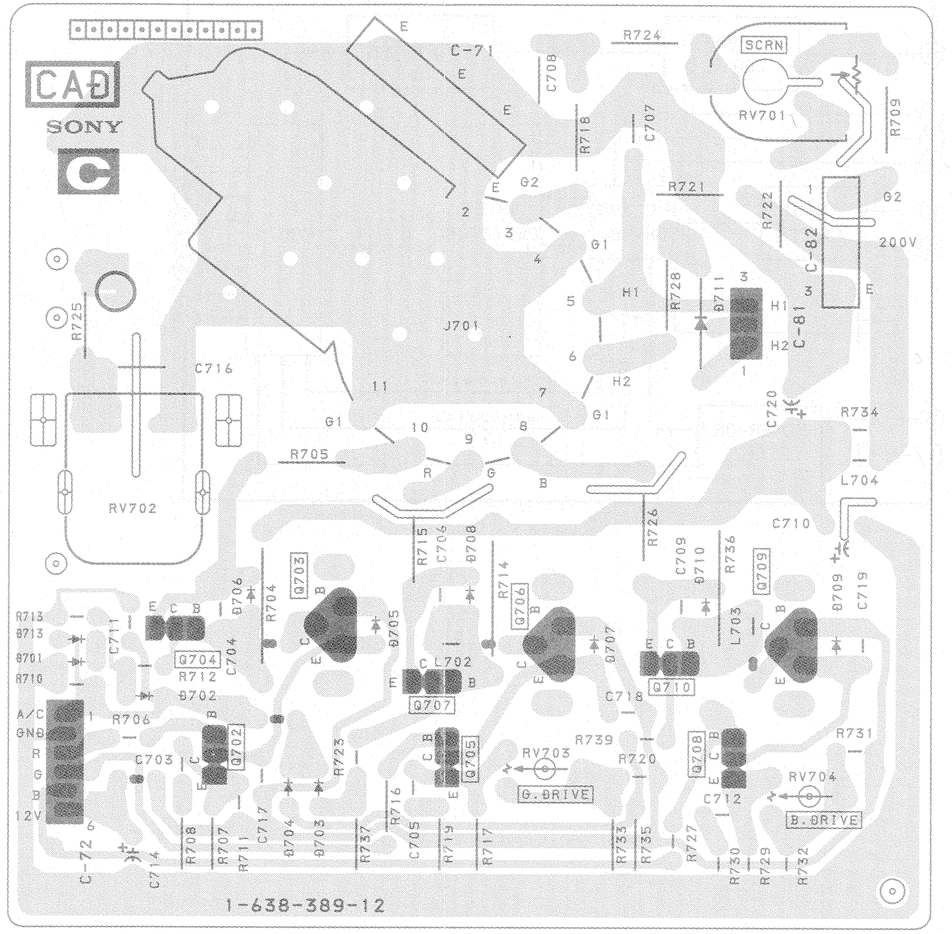


1-650-757-11
(170808411)
SONY
A1
CN0201
IC1101
IC1102

Note :

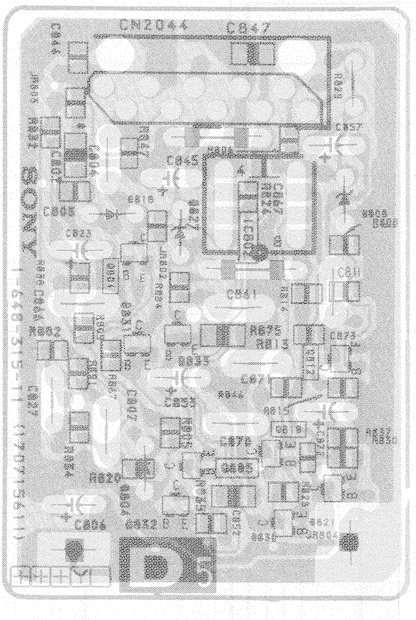
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

– C BOARD –



CAD
SONY
C
C-71
C-72
C-81
C-82
J701
SCRN
RV701
RV702
RV703
RV704
G.DRIVE
B.DRIVE
200V
A/C
GND
R
G
B
12V
1-638-389-12

– D5 BOARD –

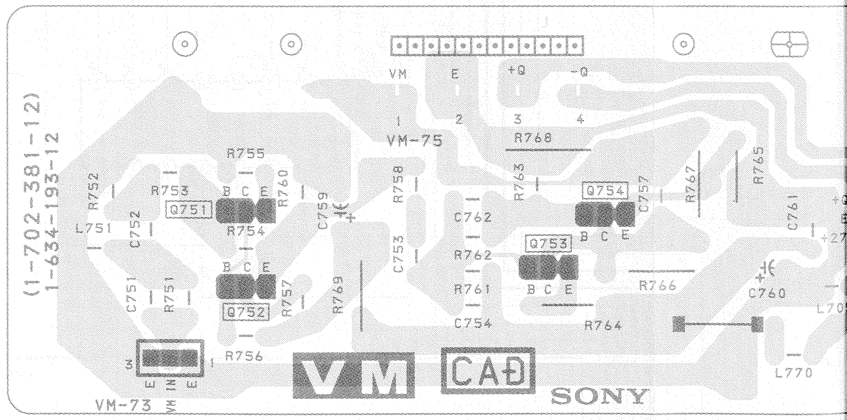


CN2044
SONY
D5

Note :

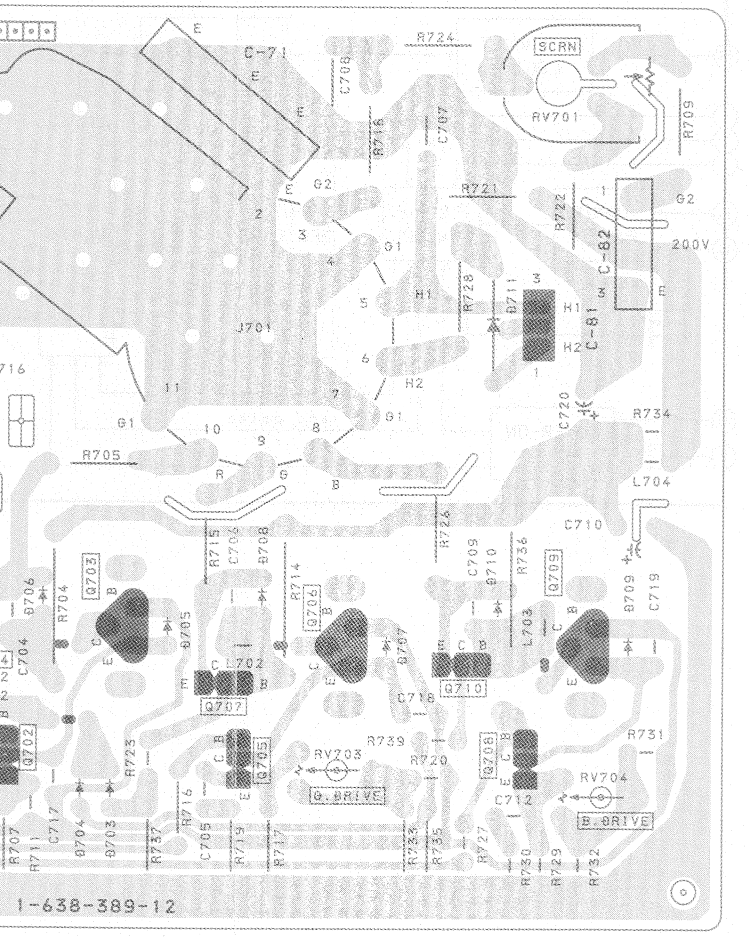
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

– VM BOARD –



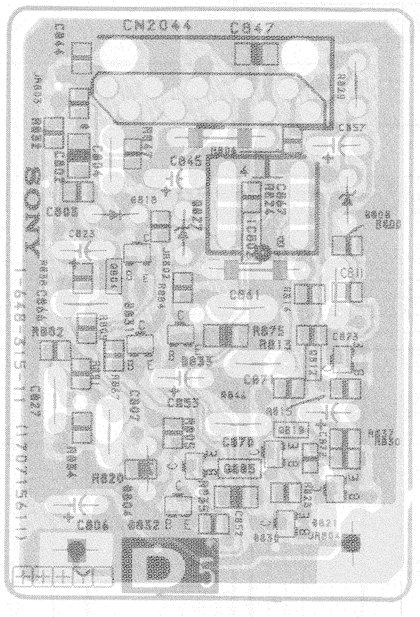
(1-702-381-12)
1-634-193-12
VM-75
VM-73
VM
CAD
SONY

VM [VM AMP] **D4** [V－PIN Q P]



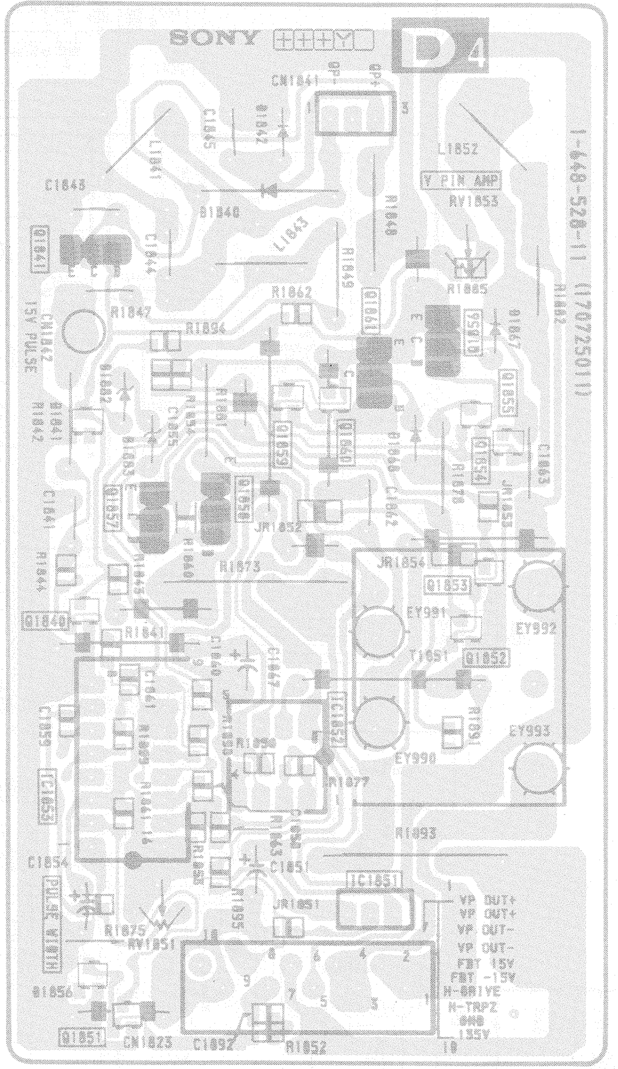
C-71
R724
SCRN
RV701
R709
C708
R718
C707
R721
R722
G2
200V
J701
H1
H2
C-82
C-81
D711
R728
C720
R734
R705
L704
C710
R715
C706
D708
R726
C709
D710
R736
Q703
Q709
R714
Q706
D707
L703
R704
D706
C704
D705
C L702
Q707
Q710
C718
D709
C719
R739
RV703
G.DRIVE
R720
Q708
C712
RV704
B.DRIVE
R731
Q705
R723
Q702
R707
R711
C717
D704
D703
R737
R716
C705
R719
R717
R733
R735
R727
R730
R729
R732
1-638-389-12

– D5 BOARD –



CN2044
C847
C845
C841
R875
R813
C878
C885
R820
C806
C832
SONY
D5
1-648-515-11 (1707156411)

– D4 BOARD –

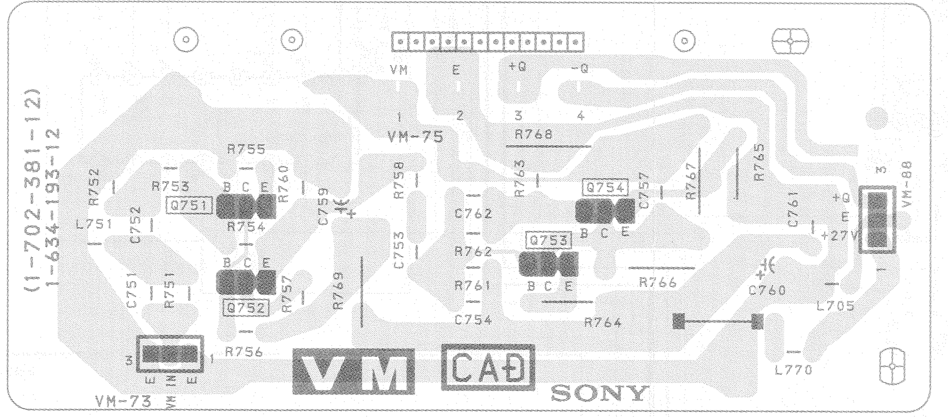


SONY
D4
CN1841
L1852
V PIN AMP
RV1853
C1843
Q1841
D1840
L1843
R1849
R1862
R1847
R1894
15V PULSE
R1865
Q1855
C1863
JR1852
R1873
JR1854
Q1853
EY991
EY992
Q1840
R1841
T1851
Q1852
IC1852
R1850
R1877
EY990
EY993
R1893
C1854
C1851
IC1851
JR1851
PULSE WIDTH
R1875
RV1851
VP OUT+
VP OUT+
VP OUT-
VP OUT-
FBT 15V
FBT -15V
H-DRIVE
H-TRPZ
GND
135V
D1856
Q1851
CN1823
C1892
R1852
1-648-520-11 (1707250111)

Note :

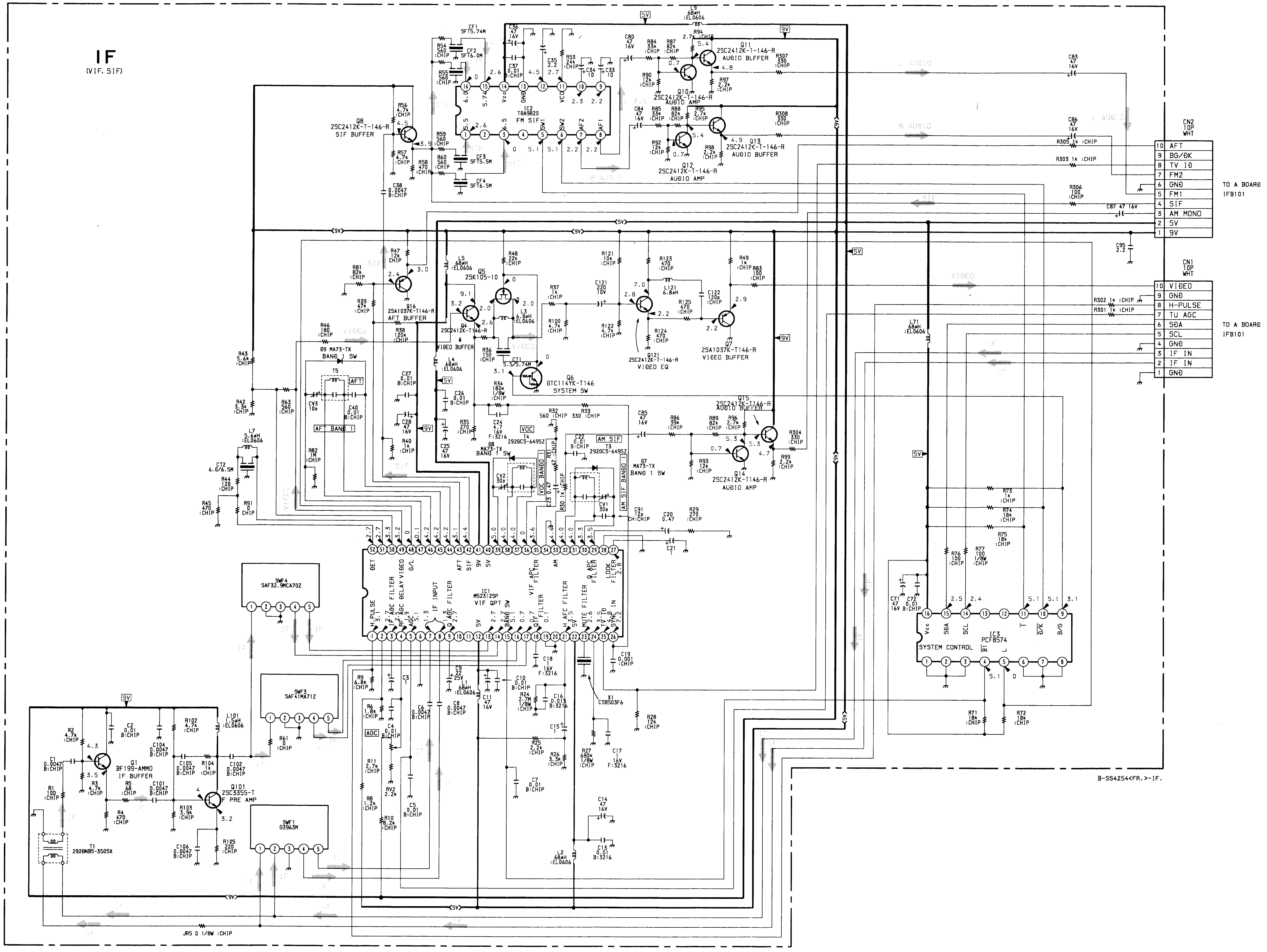
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

– VM BOARD –

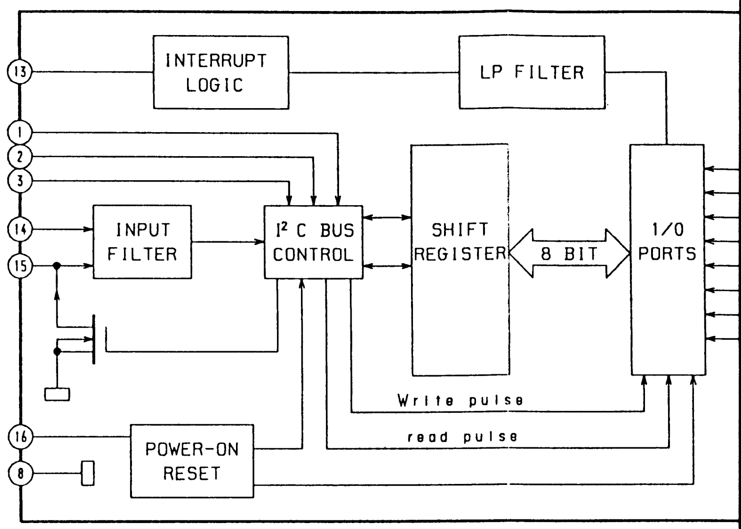


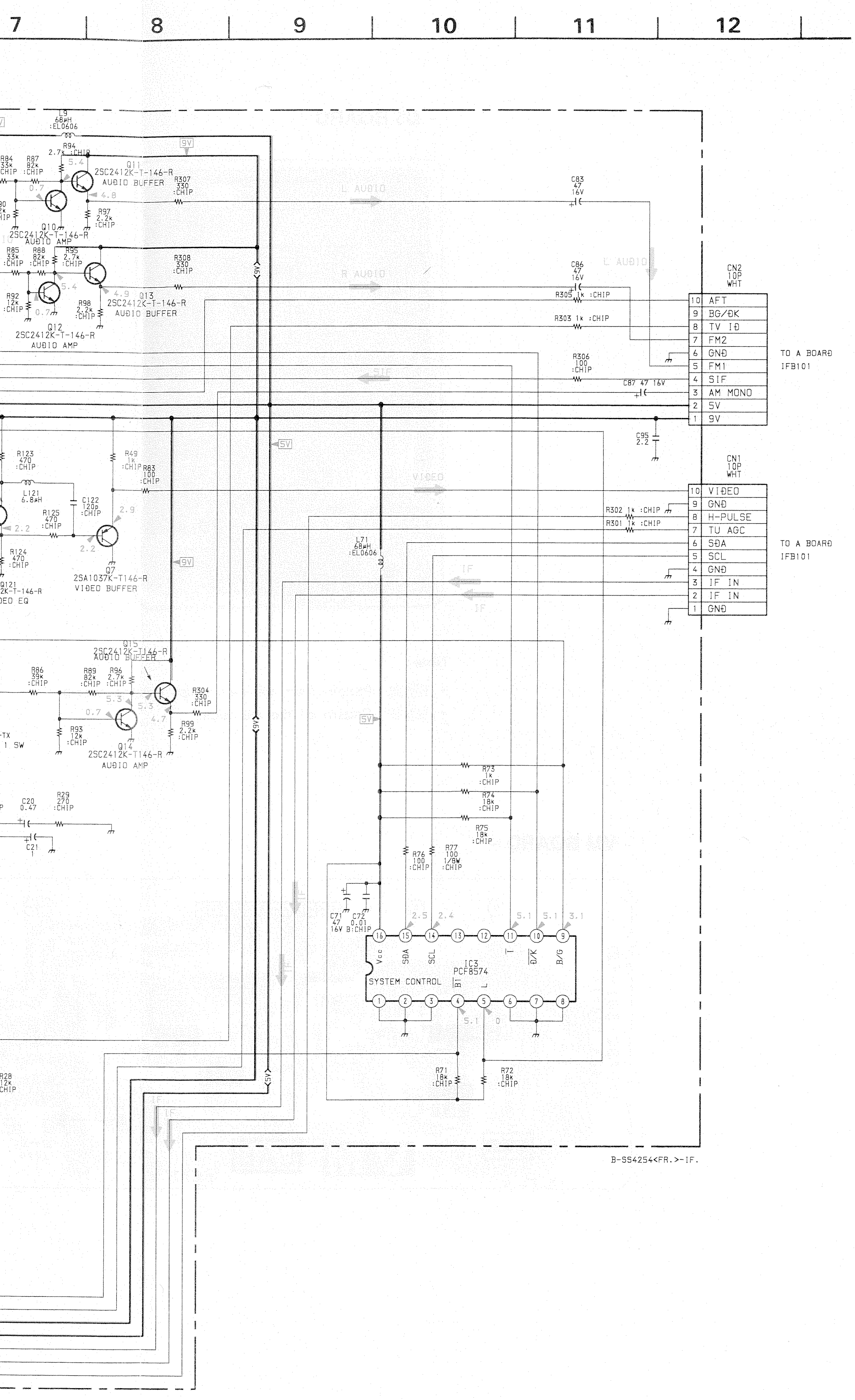
VM
E
+Q
-Q
VM-75
R768
R755
R753
Q751
R754
R760
C759
R758
R763
Q754
C757
R767
R765
VM-88
R752
L751
C752
C753
C762
Q753
C761
+Q
+27V
R762
R761
R766
C760
L705
C751
R751
Q752
R757
R769
C754
R764
R756
VM-73
VM
CAD
SONY
L770
(1-702-381-12)
1-634-193-12

IFH389F (French Model)


IF
(VIF, SIF)
IC1 M52312SP VIF QPT
IC2 TDA9820 FM SIF
IC3 PCF8574 SYSTEM CONTROL
Q1 BF199-AMMO IF BUFFER
Q101 2SC3355-T IF PRE AMP
Q5 2SK105-10
Q6 DTC114YK-T146 SYSTEM SW
Q7 2SA1037K-T146-R VIDEO BUFFER
Q8 2SC2412K-T-146-R SIF BUFFER
Q11 2SC2412K-T-146-R AUDIO BUFFER
Q13 2SC2412K-T-146-R AUDIO BUFFER
Q15 2SC2412K-T-146-R AUDIO BUFFER
Q16 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T-146-R VIDEO EQ
SWF1 G3963M
SWF3 SAF41MA71Z
SWF4 SAF32.9MCA70Z
T1 2920NBS-3505X
CN2 10P WHT
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
CN1 10P WHT
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
TO A BOARD IFB101
TO A BOARD IFB101
B-SS4254<FR.>-IF.

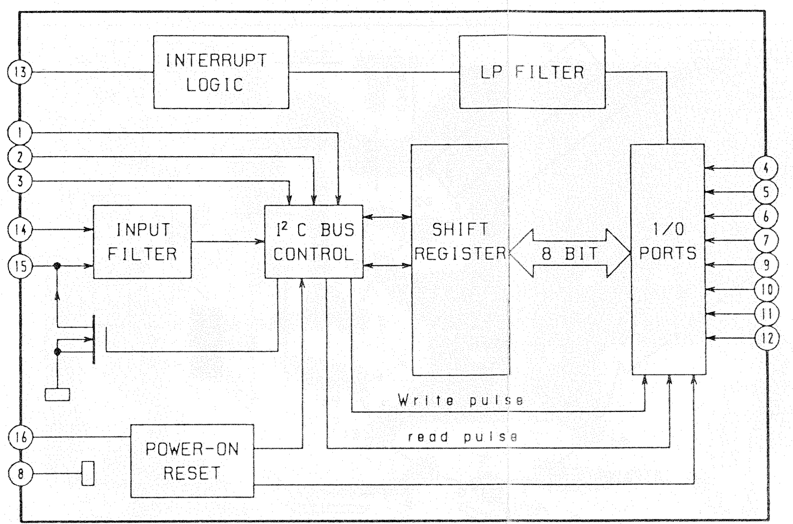
• IF BOARD IC3 PC8574 (French Model)


INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8


7
8
9
10
11
12
L9
68μH
:EL0606
R94
2.7k :CHIP
R84
33k
:CHIP
R87
82k
:CHIP
Q11
2SC2412K-T-146-R
AUDIO BUFFER
R307
330
:CHIP
R97
2.2k
:CHIP
Q10
2SC2412K-T-146-R
AUDIO AMP
R85
33k
:CHIP
R88
82k
:CHIP
R95
2.7k
:CHIP
R308
330
:CHIP
R92
12k
:CHIP
R98
2.2k
:CHIP
Q13
2SC2412K-T-146-R
AUDIO BUFFER
Q12
2SC2412K-T-146-R
AUDIO AMP
9V
5V
R123
470
:CHIP
R49
1k
:CHIP
R83
100
:CHIP
L121
6.8μH
C122
120p
:CHIP
R125
470
:CHIP
R124
470
:CHIP
Q121
2K-T-146-R
DEO EQ
Q7
2SA1037K-T146-R
VIDEO BUFFER
Q15
2SC2412K-T146-R
AUDIO BUFFER
R86
39k
:CHIP
R89
82k
:CHIP
R96
2.7k
:CHIP
R304
330
:CHIP
R93
12k
:CHIP
R99
2.2k
:CHIP
Q14
2SC2412K-T146-R
AUDIO AMP
-TX
1 SW
C20
0.47
R29
270
:CHIP
C21
1
R28
12k
CHIP
C83
47
16V
C86
47
16V
R305 1k :CHIP
R303 1k :CHIP
R306
100
:CHIP
C87 47 16V
C95
2.2
CN2
10P
WHT
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
TO A BOARD
IFB101
CN1
10P
WHT
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
TO A BOARD
IFB101
R302 1k :CHIP
R301 1k :CHIP
L71
68μH
:EL0606
R73
1k
:CHIP
R74
18k
:CHIP
R75
18k
:CHIP
R76
100
:CHIP
R77
100
1/8W
:CHIP
C71
47
16V
C72
0.01
B:CHIP
Vcc
SDA
SCL
T
D/K
B/G
IC3
PCF8574
SYSTEM CONTROL
BI
L
R71
18k
:CHIP
R72
18k
:CHIP

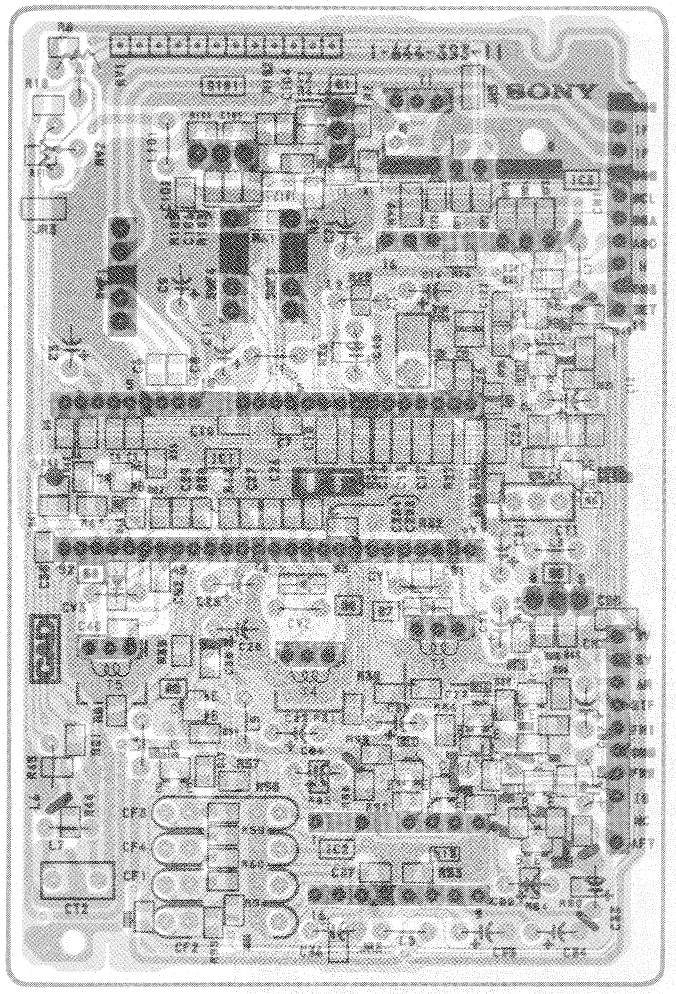
B-SS4254<FR.>-IF.

• IF BOARD IC3 PC8574 (French Model)


INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8
4
5
6
7
9
10
11
12

IF [VIF, SIF]

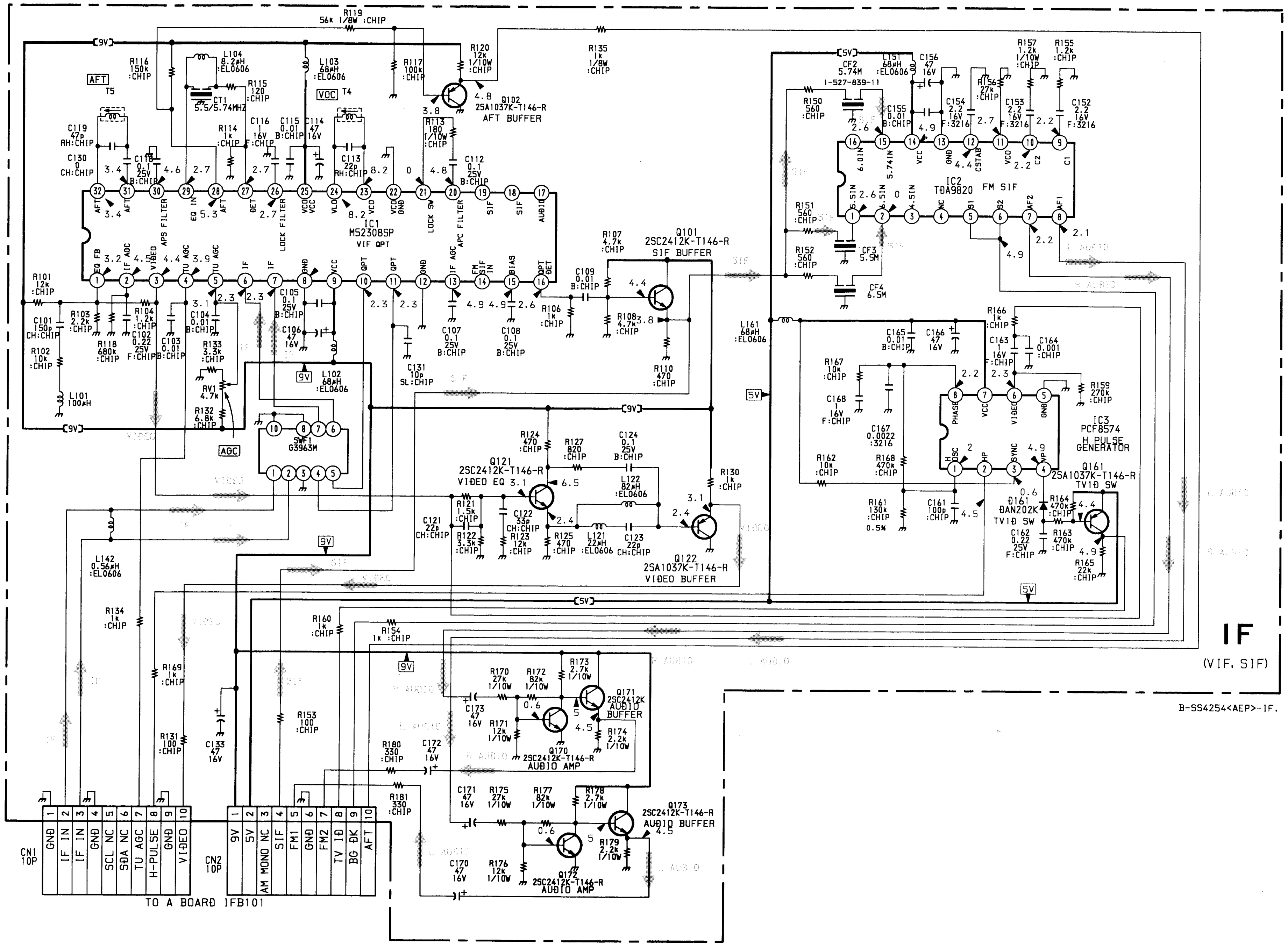
– IF BOARD – (French Model)


1-644-393-11
SONY
T1
IC3
IC1
IC2
T3
T4
T5
CN1
CN2
CF1
CF2
CF3
CF4

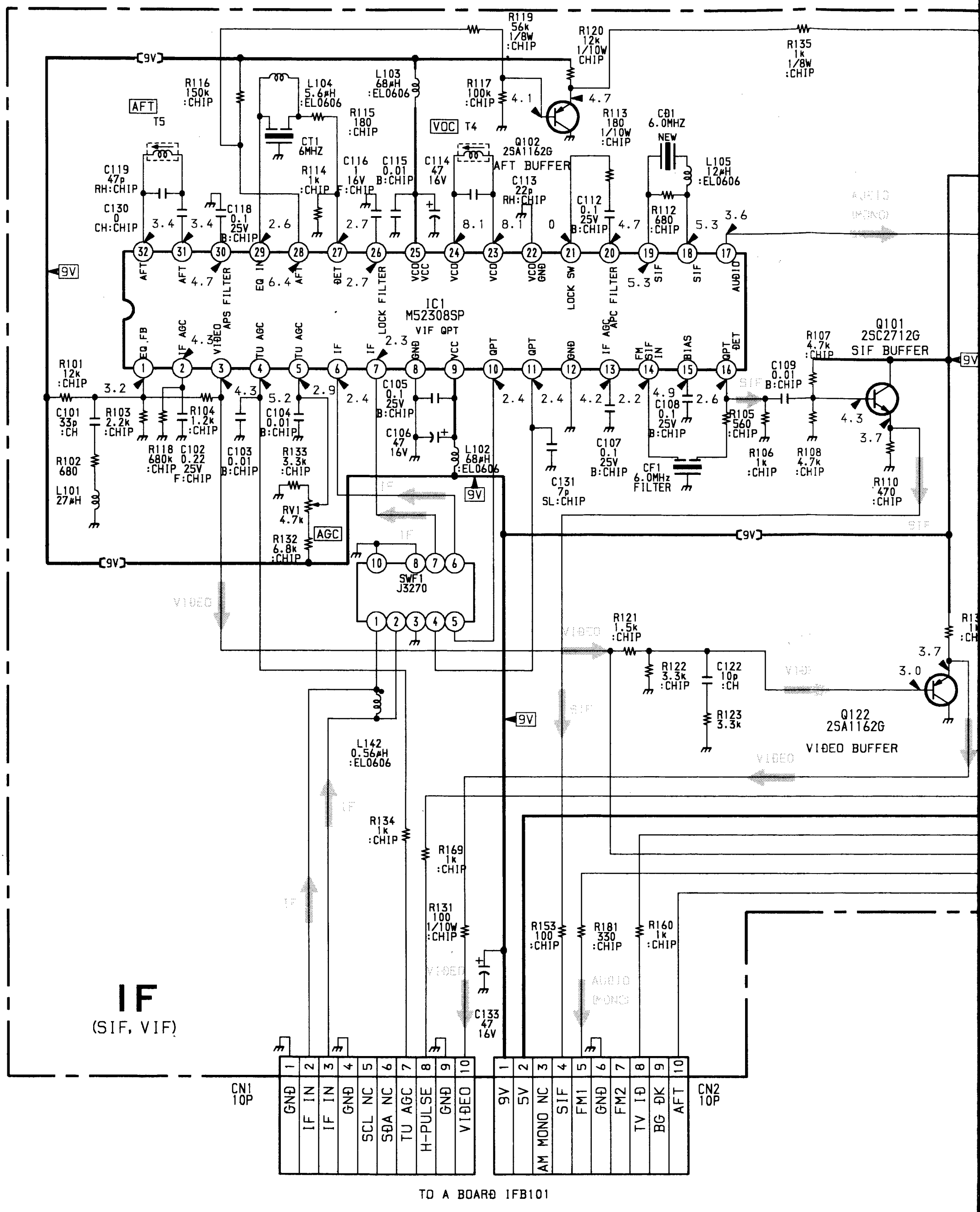
Note :

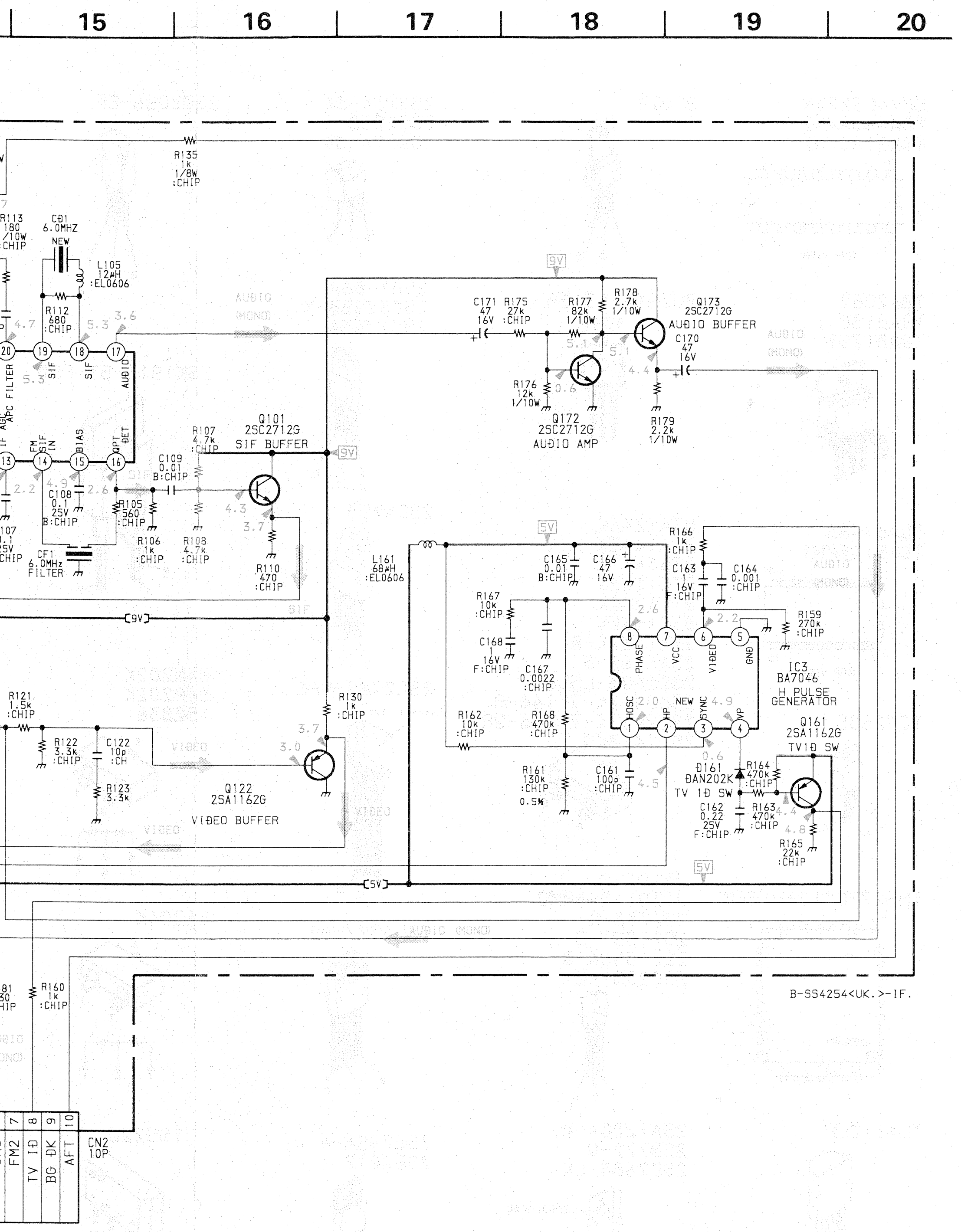
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IFH389 (AEP, Italian, Spanish Model)


IC1 M52308SP VIF QPT
IC2 TDA9820 FM SIF
IC3 PCF8574 H.PULSE GENERATOR
Q101 2SC2412K-T146-R SIF BUFFER
Q102 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T146-R VIDEO EQ
Q122 2SA1037K-T146-R VIDEO BUFFER
Q161 2SA1037K-T146-R TVID SW
D161 DAN202K
Q170 2SC2412K-T146-R AUDIO AMP
Q171 2SC2412K AUDIO BUFFER
Q172 2SC2412K-T146-R AUDIO AMP
Q173 2SC2412K-T146-R AUDIO BUFFER
SWF1 G3963M
CF2 5.74M
CF3 5.5M
CF4 6.5M
AFT
VOC
AGC
T4
T5
RV1 4.7k
9V
5V
SIF
VIDEO
IF
L AUDIO
R AUDIO
CN1 10P
GND, IF IN, IF IN, GND, SCL NC, SDA NC, TU AGC, H-PULSE, GND, VIDEO
CN2 10P
9V, 5V, AM MONO NC, SIF, FM1, GND, FM2, TV ID, BG DK, AFT
TO A BOARD IFB101
IF
(VIF, SIF)
B-SS4254<AEP>-IF.

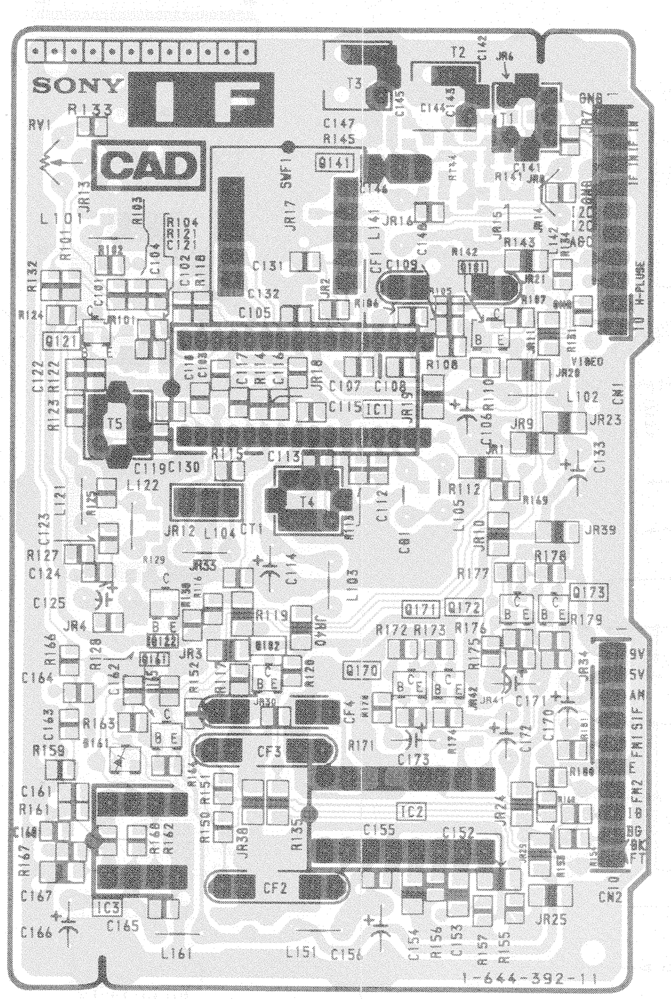
IFH385 (UK Model)


IC1 M52308SP VIF QPT
Q101 2SC2712G SIF BUFFER
Q102 2SA1162G AFT BUFFER
Q122 2SA1162G VIDEO BUFFER
SWF1 J3270
CT1 6MHZ
CB1 6.0MHZ
CF1 6.0MHz FILTER
AFT
VOC
AGC
T4
T5
RV1 4.7k
9V
VIDEO
IF
CN1 10P
GND, IF IN, IF IN, GND, SCL NC, SDA NC, TU AGC, H-PULSE, GND, VIDEO
CN2 10P
9V, 5V, AM MONO NC, SIF, FM1, GND, FM2, TV ID, BG DK, AFT
TO A BOARD IFB101
IF
(SIF, VIF)

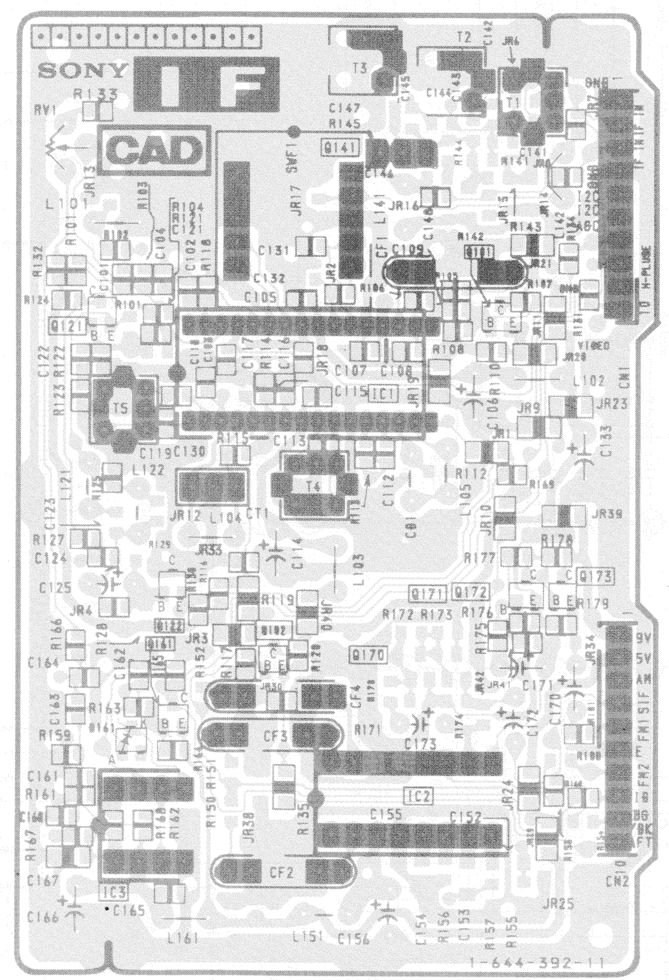

15
16
17
18
19
20
R135 1k 1/8W :CHIP
CD1 6.0MHz NEW
L105 12μH :EL0606
R112 680 :CHIP
Q101 2SC2712G SIF BUFFER
R107 4.7k :CHIP
C109 0.01 B:CHIP
R105 560 :CHIP
R106 1k :CHIP
R108 4.7k :CHIP
R110 470 :CHIP
CF1 6.0MHz FILTER
C171 47 16V
R175 27k :CHIP
R177 82k 1/10W
R178 2.7k 1/10W
Q173 2SC2712G AUDIO BUFFER
C170 47 16V
R176 12k 1/10W
Q172 2SC2712G AUDIO AMP
R179 2.2k 1/10W
AUDIO (MONO)
L161 68μH :EL0606
R166 1k :CHIP
C165 0.01 B:CHIP
C166 47 16V
C163 1 16V F:CHIP
C164 0.001 :CHIP
R159 270k :CHIP
R167 10k :CHIP
C168 1 16V F:CHIP
C167 0.0022 :CHIP
IC3 BA7046 H PULSE GENERATOR
PHASE
VCC
VIDEO
GND
HOSC
HP
SYNC
VP
R162 10k :CHIP
R168 470k :CHIP
R161 130k :CHIP
C161 100p :CHIP
Q161 2SA1162G TV1D SW
D161 DAN202K
TV 1D SW
R164 470k :CHIP
C162 0.22 25V F:CHIP
R163 470k :CHIP
R165 22k :CHIP
R121 1.5k :CHIP
R122 3.3k :CHIP
C122 10p :CH
R123 3.3k
R130 1k :CHIP
Q122 2SA1162G VIDEO BUFFER
VIDEO
9V
5V
R160 1k :CHIP
FM2
TV 1D
BG BK
AFT
CN2 10P
B-SS4254<UK.>-IF.

IF [VIF, SIF]

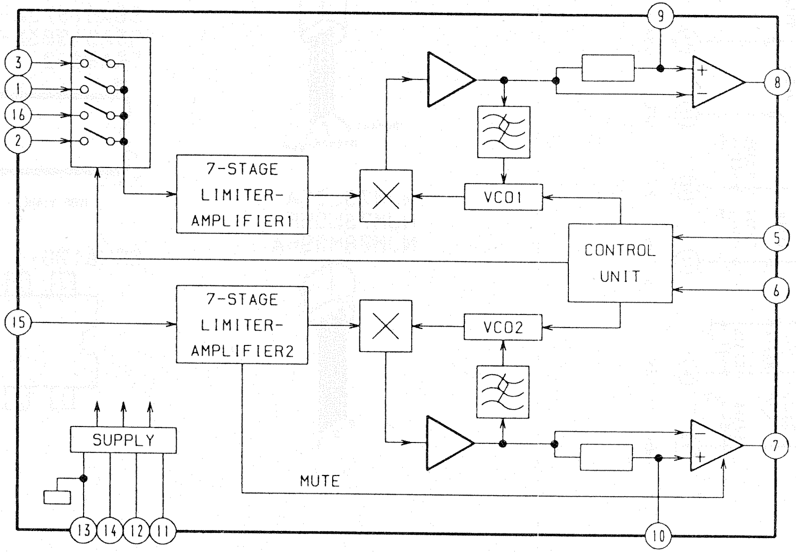
– IF BOARD – (AEP, Italian, Spanish Model)


SONY
IF
CAD
1-644-392-11

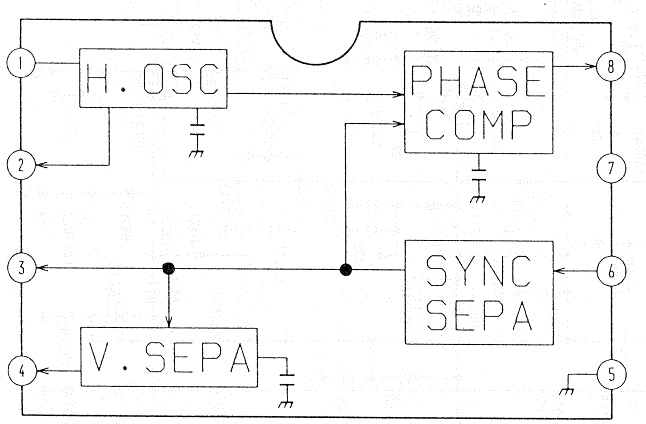
– IF BOARD – (UK Model)


SONY
IF
CAD
1-644-392-11

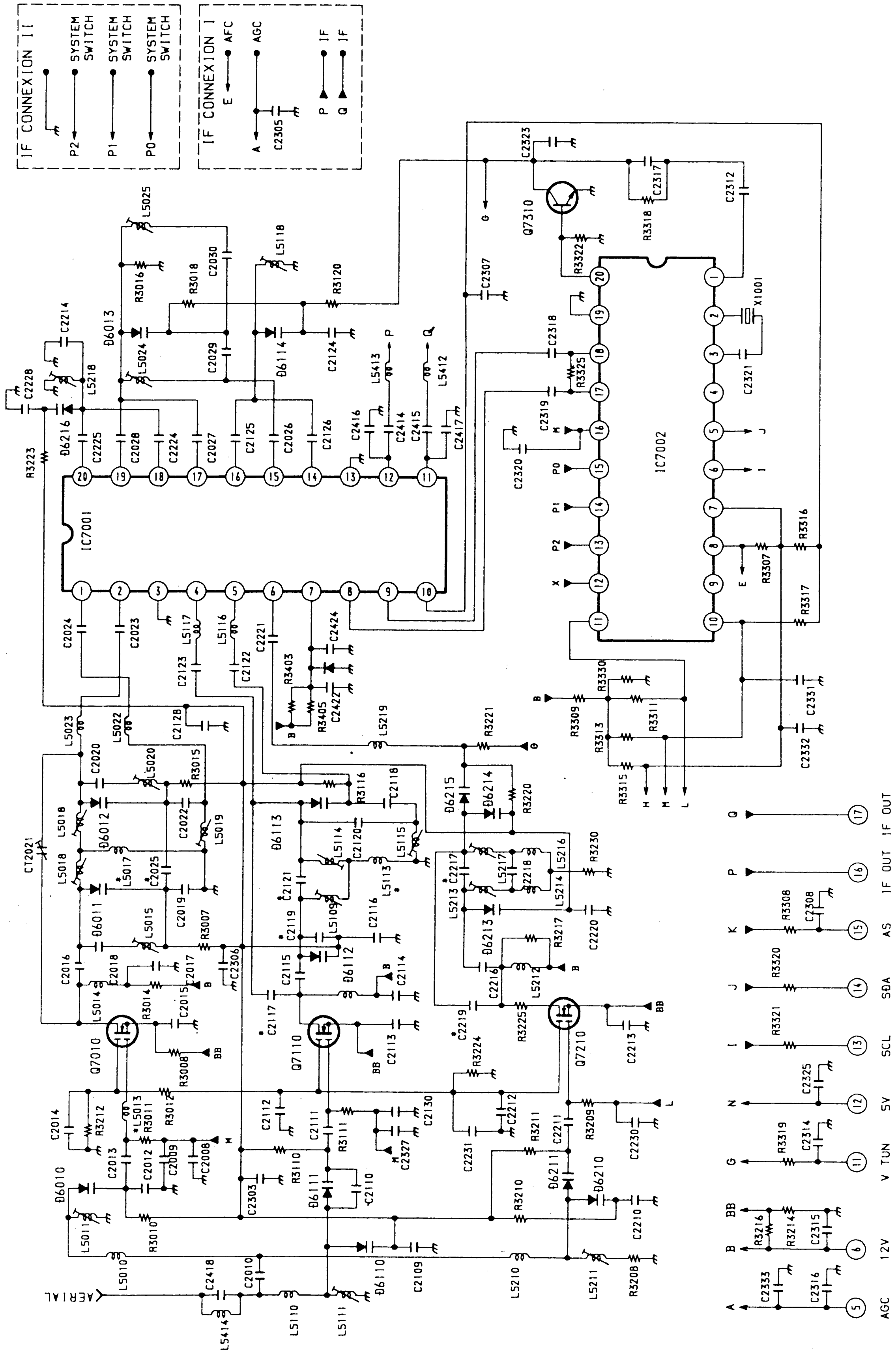
• IF BOARD IC2 TDA9820 (AEP, Italian, Spanish Model)


7-STAGE LIMITER-AMPLIFIER1
VCO1
CONTROL UNIT
7-STAGE LIMITER-AMPLIFIER2
VCO2
SUPPLY
MUTE
3
1
16
2
15
9
8
5
6
7
10
13
14
12
11

• IF BOARD IC3 BA7046 (AEP, Italian, Spanish Model)

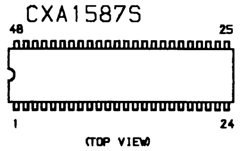

H. OSC
PHASE COMP
SYNC SEPA
V. SEPA
1
2
3
4
5
6
7
8

5-4. SCHEMATIC DIAGRAM OF TUNER
A BOARD TU101 UV916H

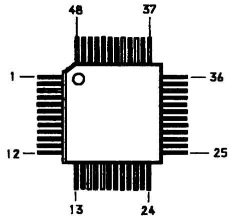

IF CONNEXION II
SYSTEM SWITCH
P2
P1
P0
IF CONNEXION I
AFC
AGC
IF
C2305
IC7001
IC7002
Q7010
Q7110
Q7210
Q7310
X1001
AERIAL
AGC
12V
V TUN
5V
SCL
SDA
AS
IF OUT
IF OUT

5-5. SEMICONDUCTORS

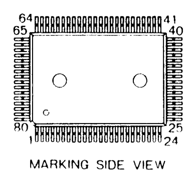
CXA1545AS
CXA1587S


48
25
1
24
(TOP VIEW)

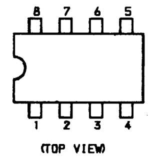
CXD2018Q


48
37
1
36
12
25
13
24

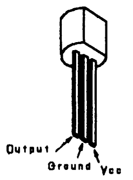
CXD2024Q


MARKING SIDE VIEW

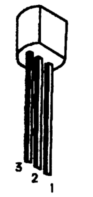
LM358D
LM393P
LM358P
TDA2822M
TDA4605-3
TEA2114
μPC358C
μPC393C
X24C16P


8 7 6 5
1 2 3 4
(TOP VIEW)

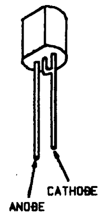
MC78L08ACPRP
MC78L12ACPRP


Output
Ground
Vcc

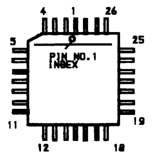
NJM78L05A
NJM78L05F
NJM78M09FA



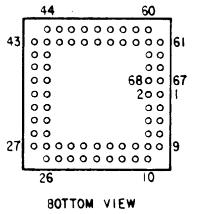
RC7809FA


ANODE
CATHODE

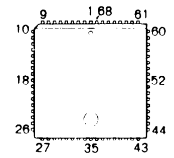
SBX1610-11


PIN NO.1 INDEX

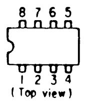
SDA30C162-GEG


BOTTOM VIEW

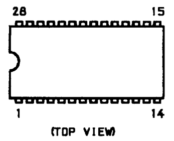
SDA5273-B14-GEG



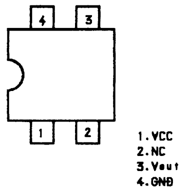
SDA9085


8 7 6 5
1 2 3 4
(Top view)

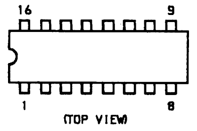
SDA91872X-GEG
SDA91883X-GEG
TDA6612


28
15
1
14
(TOP VIEW)

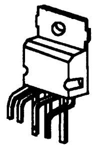
SFH617G-1


1.VCC
2.NC
3.Vout
4.GND

SN74LS221N
TDA466A/V2
TDA9160/N2


16
9
1
8
(TOP VIEW)

TDA2052
TDA8138
TDA8179S



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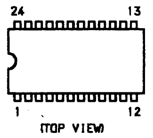
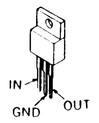
TDA9145/N1


24
13
1
12
(TOP VIEW)

TEA7605



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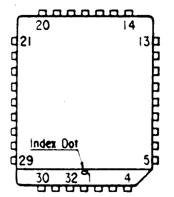
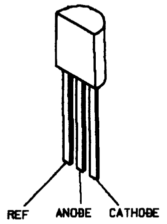


TL431CLP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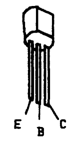
CATHODE

BF199



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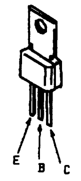

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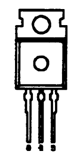

DTA124EK
DTA144EK
DTA144TK
DTC114EK
DTC124EK
DTC144EK
2SA1037K-R
2SA1162-G
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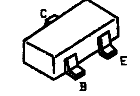
2SC2413KQ



JA101-Q
JC501-Q-AMMO
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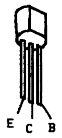
2SA1091-O
2SC1890A-D
2SC2551-O



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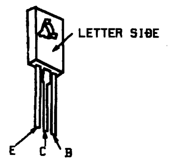
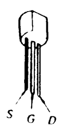

LETTER SIDE
E
C
B

2SA1837



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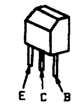
2SD774-34



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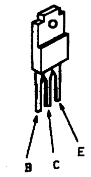
2SD1763A



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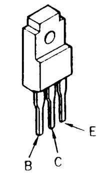

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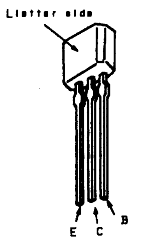
Letter side
E
C
B

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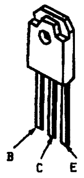

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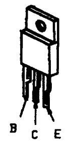

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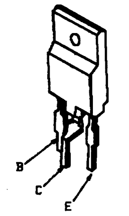

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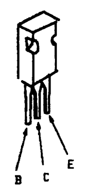

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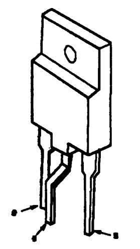

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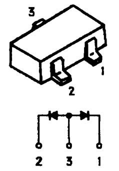
DAP202K
1S2836



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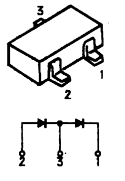

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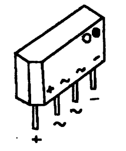

D5L60